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250 *pp.*, 5½ *x* 8, *illus.* (1952).....$5.95*td*
Written for the thousands of individuals interested in tropical fish as a fascinating hobby, this beautifully illustrated and comprehensive book contains authoritative and helpful information on all the most popular varieties. It describes the characteristics of each breed, their breeding habits, their food, and the rules for maintaining a healthy home aquarium. There are special chapters on fish breeding and on fish nomenclature and an easy reference chart of vital facts about more than 100 popular tropical fish.

Astronomy

McGRAW-HILL ASTRONOMICAL SERIES

(Astron. Series)

Edward Arthur Fath, Consulting Editor
Professor Emeritus of Astronomy, Carleton College

Fath—Elements of Astronomy
Hynek—Astrophysics
Nassau—Textbook of Practical Astronomy

FATH—Elements of Astronomy
By EDWARD ARTHUR FATH, formerly Carleton College. *Astron. Series.* Fifth Edition.
369 *pp.*, 6 *x* 9, 271 *illus.* (1955).....$6.50*c*

Offers a simple, fundamental and accurate treatment of the entire field of astronomy. Contains a thorough, nontechnical presentation of the facts of astronomy and the principles and methods used in modern astronomical investigations. In the fifth edition the chapters on sun, stars, and extra-galactic objects have been entirely rewritten and brought up-to-date, a new chapter on Interstellar Matter has been added, and many excellent new illustrations have been included.

CONTENTS—Preface. Introduction. The Celestial Sphere. The Earth. Light. The Telescope. The Moon. Practical Astronomy. Gravitational Astronomy. The Sun—Our Nearest Star. Eclipses. The Planetary System. Terrestrial Planets and Asteroids. The Major Planets. Comets and Meteors. The Stars. The Stars (continued). The Number and Arrangement of the Stars. Other Members of the Galactic System. Interstellar Matter. Structure of the Galaxy. Other Galaxies. Structure of the Visible Universe. Cosmogony. Appendix. Name Index. Subject Index. Star Charts.

HYNEK—Astrophysics
A Topical Symposium
Edited by J. A. HYNEK, Northwestern University. *Astron Series.*
674 *pp.*, 6 *x* 9, 145 *illus.* (1951)....$16.00*r*

A symposium of papers treating all the active fields of astrophysics. The fifteen contributors are leaders and authorities in their respective fields. The volume commemorates the Fiftieth Anniversary of the Yerkes Observatory and reviews the progress in astrophysics during the half-century since the founding of the observatory.

CONTENTS—Introduction: ON THE DEVELOPMENT OF ASTROPHYSICS DURING THE LAST HALF CENTURY. PART I. SPECTROSCOPIC ASTROPHYSICS. Classification of Stellar Spectra. Interpretation of Normal Stellar Spectra. The Analysis of Peculiar Stellar Spectra. Molecular Spectra in Cosmic Sources. The Growth of Our Knowledge of the Physics of the Stars. PART II. PHYSICS OF THE SOLAR SYSTEM. The Sun and Stellar Radiation. Comets. On the Origin of the Solar System. PART III. PHYSICS OF BINARY AND VARIABLE STARS. Visual Binary Stars and Stellar Parallaxes. Spectroscopic Binaries and Stars with Composite Spectra. Eclipsing Binaries. The Intrinsic Variable Stars. PART IV. PHYSICS OF COSMIC MATTER. Interstellar Matter. The Structure, the Composition, and the Source of Energy of the Stars. Index: Names, Stars, Subjects.

McKINLEY—Meteor Science and Engineering
By D. W. R. MCKINLEY, National Research Council, Ottawa, Canada. *Series in Engg. Sc.*
309 *pp.*, 6 *x* 9, *illus.* (1961).....$13.50*i*
*McG-H Paperbacks Ed.**

Summarizes the major observational and theoretical developments in meteor science, and embraces the spatial history of meteor particles and the effects they create in the upper atmosphere. It explains meteor science to the engineer who has not specialized in meteor research, but who needs to learn something of the background. The outline of the engineering aspect of the meteor story has been written primarily for the benefit of the meteor research specialist who may not be acquainted with this aspect of the field.

CONTENTS—Preface. Historical Survey. Some Elements of Astronomy and Radio. Visual and Photographic Techniques. Radio Techniques. Observational Data on Meteors. Astronomical Aspects of Meteors. Physical Theory of Meteors. Radio Echo Theory. Forward Scatter from Meteor Trails. Other Effects of Meteors. APPENDIX. BIBLIOGRAPHY. INDEX.

* *Available only through your local bookstore.*

NASSAU—Textbook of Practical Astronomy
By JASON JOHN NASSAU, Case Institute of Technology. *Astron. Series.* Second Edition.
312 *pp.*, 6 *x* 9, 120 *illus.* (1948)....$7.50*c*

A text for students of practical or geodetic astronomy. It is divided into two parts. Part I, designed for a first course, deals with fundamental principles and ordinary determinations; Part II presents all the advanced material necessary for field work in Geodetic Astronomy.

CONTENTS—Fundamental Principles and Ordinary Determinations of Time, Latitude, Longitude, and Azimuth; Introduction; Astronomical Systems of Coordinates; The Astronomical Triangle; Time and Longitude; The Nautical Almanac; Conversion of Time; Corrections to Observations; Instruments; Determination of Time; Latitude; Azimuth; The Solar Attachment; Precise Determination of Azimuth, Time, Longitude, and Latitude; Secular and Periodic Changes, the American Ephemeris and Nautical Almanac, Star Catalogues; Precise Determination of Azimuth; Determination of Time by the Transit Instrument; Longitude; The Zenith Telescope; Determination of Latitude and Longitude by Equal Altitudes; Appendix A: Formulas Relating to Spherical Trigonometry; Appendix B: Constants and Formulas; Greek Alphabets; Abbreviations; Tables; Forms; Answers to Exercises; Star Maps; Index.

BERNHARD, BENNETT, AND RICE—New Handbook of the Heavens
By HUBERT J. BERNHARD, DOROTHY A. BENNETT, and HUGH S. RICE. Second Edition.
368 *pp.*, 5½ *x* 8, *illus.* (1948).....$6.50*t*
*McG-H Paperbacks Ed.**

This popular book for amateur astronomers contains three new chapters: "Solar Time," "The Art of Navigation" and "Astronomy for the Traveler." There are also additional charts and appendixes. Covering every aspect of the subject, *New Handbook of The Heavens* is an intensely interesting guide to both the understanding and enjoyment of astronomy. In the writing and revision of *New Handbook of The Heavens*, the authors have used their experience in presenting astronomy in popular style before the Junior Astronomy Club of the American Museum of Natural History and at the Hayden Planetarium in New York City.

* *Available only through your local bookstore.*

RICHARDSON—The Fascinating World of Astronomy
By ROBERT S. RICHARDSON.
274 *pp.*, 5⅝ *x* 8⅜, 75 *illus.* (1960)..$5.95*td*

For the layman—young or old—here is an informal and highly dramatic over-all picture of astronomy, presented in question-and-answer form. Progressing from basic information—at all times vividly presented through comparisons, diagrams, and excellent photographs—the reader first learns about the nearer stars and planets, then moves on to exciting discussions of other constellations and galaxies. Dr. Richardson is a staff member of California's Mount Wilson and Palomar Observatories and a lecturer at the Griffith Planetarium.

Conservation

Principles and Practice

ALLEN—Conserving Natural Resources
Principles and Practice in a Democracy
By SHIRLEY W. ALLEN, formerly University of Michigan. Second Edition.
370 *pp.*, 6 *x* 9, 180 *illus.* (1959).....$7.95*c*
Covers the entire field of natural resources, including the minerals. This book emphasizes the nature and occurrence of each group of resources, their significance in the individual and national economy and survival, the practices which led to their depletion and to their use, the maintenance and fair distribution which constitute their conservation.
CONTENTS—Introduction. The Land, the Soil, and Conservation. Water and the Atmosphere. Forests, Grazing, and Recreation. Wild-animal Resources. The Mineral Resources. Human Powers as Natural Resources.

BLACK—Biological Conservation
With Particular Emphasis on Wildlife
By JOHN D. BLACK, Northeast Missouri State Teachers College.
328 *pp.*, 75 *illus.* (1954).....$6.95*c*
The necessity for a fundamental approach to wildlife conservation, rather than the socio-geographical point of view, is stressed throughout. The book begins with the basic ecological considerations. This is in line with the author's intention to point up the basic interrelation of *all* forms of life.
CONTENTS—BASIC CONSIDERATIONS. The Need for Conservation. Historical Review. Essentials of Life. Soil. Water. THE ENVIRONMENT. Basic Ecology. Standing Water. Running Water. Grasslands and Wildlife. Forests. FISH AND OTHER AQUATIC ANIMALS. Game and Pan Fishes. Rough Fishes. Forage Fishes. Reptiles and Amphibians. Invertebrates. BIRDS. Upland Game Birds. Ducks and Geese. Shore Birds. Predatory Birds. Songbirds and Nongame Birds. MAMMALS. Fur Bearers. Game Mammals. Predatory Mammals. Other Mammals. SOLVING THE PROBLEMS. Administration of Conservation. Annotated Bibliography. Film Guide. Index.

HUBERTY AND FLOCK—Natural Resources
Edited by MARTIN R. HUBERTY, and WARREN L. FLOCK, University of Alaska. *Univ. of Cal. Engg. Exten. Series.*
556 *pp.*, 6 *x* 9, 177 *illus.* (1959)....$11.00*c*
Provides a firm foundation of knowledge concerning our renewable and non-renewable resources, and seeks to promote constructive thought and action. The basic resources of solar radiation, air, water, soil, space, plant and animal life, and minerals are treated. Recent technological advances and problems are covered, and scientific background material is included. Social and economic aspects of natural resources are also considered. All the major natural resources are covered by authorities in the field.
CONTENTS—Natural and Human Resources. Fresh Water Resources. Fresh Water from Saline Sources. Marine Resources. The Atmosphere. Air Pollution Control. Land as a Resource—Use of Land. Soil Resources. Physical Aspects of Soil Management. Photosynthesis. Ecology. Wildlife, and Wilderness Ecology. Forest Land and Forest Products. Food Consumption and Resources. Non-fuel Mineral Resources. Mineral Exploration. Fossil Fuels. Solar, Wind, and Water Power Resources. Nuclear Energy. Economics and Policies of Resource Conservation. Natural Resources Research Problems.

Soil and Water Conservation

BENNETT—Elements of Soil Conservation
By HUGH H. BENNETT. Second Edition.
358 *pp.*, 6 *x* 9, 120 *illus.* (1955).....$5.00*s*
Gives the reader a clear understanding of the important aspects and problems and methods of soil and water conservation. It makes a special point of showing how proper use and protection of the land will insure enough food to care for the rapidly increasing population.
CONTENTS—Introduction. The Erosion Problem in the United States. Extent of Erosion. Effects of Erosion. How Erosion Takes Place. Rates of Erosion and Runoff. Climate and Soil Erosion. Rainfall Penetration. A National Program of Soil Conservation. Planning for Conservation of Soil and Water. Use of Vegetation in Soil and Water Conservation. Contouring. Terracing. Channels and Outlets. Gully Control. Control of Erosion on Stream Banks. Water Spreading. Wildlife and Soil Conservation. Farm Ponds for Water Storage. Stubble-mulch Farming. Farm Drainage. Farm Irrigation. The Place of Trees and Shrubs in Soil and Water Conservation. Upstream Flood Control. List of Visual Aids.

BENNETT—Soil Conservation
By HUGH H. BENNETT. *Series in Geog.*
968 *pp.*, 6 *x* 9, *illus.* (1939).....$13.95*c*
A detailed, authoritative treatment covering every aspect of the subject of land loss owing to soil erosion—the progressive waste of productive earth under the wash of rain and the sweep of wind, with its broad implications of social and economic decline. The book brings into sharp focus the urgent problem of our dwindling land resource. It discusses the rate at which good soil is going, the reasons, the results, and what must be done to stop it. The relationship between erosion, wasted rain, and the increasingly serious problem of sedimentation is fully outlined. In the second half of the book measures of soil defense are discussed in a program of national conservation action.
CONTENTS—Part I. Soil Erosion. Part II. Soil Conservation.

KOHNKE AND BERTRAND—Soil Conservation
By HELMUT KOHNKE, Purdue University and ANSON R. BERTRAND, Southern Piedmont Sail and Water Management Station. *Series in Agr. Sc.*
298 *pp.*, 6 *x* 9 (1959).....$7.50*c*
A concise presentation of the fundamental nature and cause of soil erosion, the aims of soil conservation, and the principles and methods of saving the soil and maintaining its productivity. Emphasis throughout is on the fundamental principles of soil erosion and soil conservation in order to show how the various

conservation methods fit together and how they can be applied on the farm.

CONTENTS—Preface. Soil Conservation as a Problem of Humanity. The Soil. Soil Erosion. Aims and Principles of Soil Conservation. Methods of Soil Conservation. Special Soil-conservation Problems. Economics of Soil Conservation. Farm Planning for Soil Conservation. The Future of Land Management. Index.

Wildlife Management

TRIPPENSEE—Wildlife Management
Volume I, Upland Game and General Principles

By REUBEN EDWIN TRIPPENSEE, formerly University of Massachusetts. *Amer. For. Series.*

479 *pp.*, 6 *x* 9, 43 *illus.* (1948).....$7.95*c*

A direct approach to the process of making the farm, forest, and wilderness produce sustained crops of upland game. A summary of the life histories of important game animals of North America and important facts about breeding characteristics, cover requirements, food, population density, and mortality.

CONTENTS—FARM WILDLIFE—Cottontail Rabbit. Hungarian Partridge. Pheasants. Bobwhite Quail. Tree Squirrels. FOREST WILDLIFE—Wildlife Management in the Forest. Black Bear. Deer. Prairie Chickens, Sharptails, and Sage Grouse. Ruffed Grouse. Varying Hare. Wild Turkey. American Woodcock. WILDERNESS WILDLIFE—Management of Wilderness Areas. American Elk. Bighorn Sheep. Gray Wolf. Grizzly Bear. Moose. Pronghorn Antelope. Rocky Mountain Goat. Woodland Caribou. Diseases and Parasites of Wild Animals. MISCELLANEOUS WILDLIFE RELATIONSHIPS—Variation in Numbers of Wild Animals. Predator-prey Relationships. Game Production and Harvest. Refuges. Winter Feeding. WILDLIFE ADMINISTRATION—Wildlife Administration and Policy. Wildlife Management Training.

TRIPPENSEE—Wildlife Management
Volume II, Fur Bearers, Waterfowl, and Fish

By REUBEN EDWIN TRIPPENSEE, formerly University of Massachusetts. *Amer. For. Series.*

572 *pp.*, 6 *x* 9, 174 *illus.* (1953)....$8.95*c*

This second and final volume of Trippensee's authoritative study is designed to give pertinent facts concerning the management of water and wet lands, and the life histories, ecology, and management of fur bearing animals, waterfowl, and fresh-water game fish. Descriptions of the habitats in different parts of the country are included, as well as comments by leaders in fish and game management.

CONTENTS—FOUNDATIONS OF WILDLIFE PRODUCTION. Water and Its Conservation. Marsh and Swamp Management. FUR BEARERS. Fur Bearers. Beaver. Bobcat and Lynx—American Mountain Lion—Young. Coyote—Young. Foxes. Mink and Weasels. Muskrat. Otters. Raccoon. Skunk. Fisher. Marten and Wolverine. Badger-Opossum-Fur Seal. WATERFOWL. Waterfowl Ecology. Waterfowl Management—Gabrielson. Dabbling Ducks. Diving Ducks. Swans, and Geese. Stream Management—Tarzwell. Fresh-water Game Fishes (Cold Water). Lake and Pond Management—Eschmeyer. Farm Fish Ponds—Krumholz. Fresh-water Game Fishes (Warm Water).

Air Pollution

MAGILL, HOLDEN, AND ACKLEY—Air Pollution Handbook

Edited by PAUL L. MAGILL, Senior Scientist, FRANCIS R. HOLDEN, Radiation Detection Co., and CHARLES ACKLEY, Stanford Research Institute.

645 *pp.*, 6 *x* 9, *illus.* (1956).....$19.50*hb*

Tells exactly what is known about air pollution, how to apply what is known, and indicates where further research needs to be done. The wide range of treatment includes such diverse topics as city planning and plant location in relation to air pollution control, the chemistry of contaminated atmospheres, kinds of pollutants harmful to animals, procedures for sampling contaminated atmospheres, experimental test methods, and legal considerations.

CONTENTS—Air Pollution Sources and Their Control. City Planning, Industrial-plant Location, and Air Pollution. Chemistry of Contaminated Atmospheres. Physics of the Atmosphere. Evaluation of Weather Effects. Visibility and Air Pollution. The Epidemiology of Air Pollution. Effects of Air Pollutants on Farm Animals. Effect of Air Pollution on Plants. Sampling Procedures. Analytical Methods. Experimental Test Methods. Abating Air Pollution. Air Pollution Legislation.

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HARBAUGH AND GOODRICH—Fundamentals of Biology

By the Kansas State Comprehensive Biology Committee: M. J. HARBAUGH and A. L. GOODRICH, Editors; P. L. Gainey, R. H. Painter, H. H. Haymaker, and E. J. Wimmer, all of Kansas State College.

611 *pp.*, 6 *x* 9, 283 *illus.* (1953).....$7.95*c*

Develops principles by *integrating* plant and animal forms, rather than covering them in separate sections. It shows man as an organism in a world in which *all* organisms are interrelated. Examples in this text are drawn from whatever plant or animal form seems to best illustrate a particular principle.

CONTENTS—Preface. The Nature, Value and Scope of Biology; The Living World About Us; Naming and Classifying Plants and Animals; The Substance of Life; Growth and Differentiation in Plants and Animals; Food Syntheses and Utilization in Plants; Digestion; Distribution and Related Phenomena; Respiration; Excretion and Osmotic Control; The Framework of Organisms; Its Origin and Function; Motion and Locomotion; Coordination, Neural and Chemical; Reproduction; Heredity; Evolution; Organisms in Relation to Environment; Parasitism, Pathogenicity, and Some Closely Related Phenomena; Disease, Immunity, and Disease Control; Conservation of Natural Resources. Appendix. Index.

WEISZ—The Science of Biology

By PAUL B. WEISZ, Brown University. Second Edition.

800 *pp.*, 8¼ *x* 9¼, *illus.* (1963)....$8.50*c*

Study Guide

305 *pp.*, 7 *x* 10 (1963).....$2.95*c*

Laboratory Manual

174 *pp.*, 7 *x* 10, *illus.* (1963).....$3.95*c*

The second edition, like the first, is designed for modern biology courses using the molecular approach. The revision continues to emphasize "principles" rather than descriptive biology. It retains the clear writing style and the essential organization of the first edition. The early part of the book covers the structure and organization of living matter, and the later parts concentrate on function, with the emphasis on biochemistry.

CONTENTS—INTRODUCTION. The Nature of Science. Chemical Processes. THE WORLD OF LIFE. The Origin of Life. Cells. Organisms. Species. Communities. THE LIVING ORGANISMS. Kinds of Organisms: Monera. Protista. Metaphyta. Metazoa. METABOLISM. Environment and Nutrition. Plant Nutrition. Animal Nutrition. Gas Exchange. Respiration. Energy Utilization. SELF-PERPETUATION: THE STEADY STATE. Genes and Control Patterns. Control in Plants. Control in Animals: Growth Factors. Control in Animals: The Body Fluids. Control in Animals: Neural Coordination. SELF-PERPETUATION: REPRODUCTION. The Patterns of Reproduction. Reproduction: Monera and Protista. Reproduction: Metaphyta. Reproduction: Metazoa. Development. SELF-PERPETUATION: ADAPTATION. Heredity. Evolution: The Mechanism. Evolution: The Past. Glossary. Index.

WEISZ—Elements of Biology

By PAUL B. WEISZ, Brown University.

491 *pp.*, 8¼ *x* 9¼, 400 *illus.* (1961)..$7.50*c*

Study Guide (Brenner)

280 *pp.*, 7 *x* 10 (1963).....$2.95*c*

Intended for courses which wish to concentrate on some of the important principles of modern analytical biology. This is a reorganized, simplified, and completely rewritten version of the author's larger text, THE SCIENCE OF BIOLOGY. Every major topic and concept of the original text is retained. But only the minimum elaboration needed for full understanding is presented. The biochemical sections in particular have been simplified. This text can easily be understood by all students—biology majors, botany majors, zoology majors and liberal arts students. The text was written for all encountering biology for the first time; it assumes no science background.

CONTENTS—Preface. THE NATURE OF SCIENCE: The Origin of Science, The Forms of Science, The Procedure of Science, The Limitations of Science, The Language of Science. PART I. THE LIVING WORLD. THE ORIGIN OF LIFE: The Chemical Background, Chemical Evolution, Biological Evolution. CELL AND ORGANISM: Functional Characteristics, Structural Characteristics. SPECIES AND COMMUNITY: The Species, The Society, The Community, Symbiosis. COMMUNITY AND ENVIRONMENT: The Communal Habitats, The Global Environment. PART 2. THE LIVING ORGANIZATION. PROTOPLASM AND CELLS: The Composition of Protoplasm, The Properties of Protoplasm, The Structure of Protoplasm. MONERA AND PROTISTA: Kinds of Organisms, Monera, Protista. METAPHYTA: ADVANCED PLANTS: Bryophytes, Tracheophytes, Patterns of Life, Internal Structure. METAZOA: ADVANCED ANIMALS: Animal Characteristics, Radiata, Acoelomates, Pseudocoelomates, Schizocoelomates, Enterocoelomates. PART 3. METABOLISM. AUTOTROPHIC NUTRITION: Autotrophic Patterns, The Inorganic Nutrients, Internal Transport, Photosynthesis. HETEROTROPHIC NUTRITION: Heterotrophic Patterns, Ingestion and Digestion, Absorption and Egestion, The Transport Pathways, Liver Function. GAS EXCHANGE: Patterns of Breathing, The Breathing System, Gas Transport. CELLULAR METABOLISM: RESPIRATION: The Pattern of Respiration, Energy Transfer, Hydrogen Transfer, Fuel Combustion. CELLULAR METABOLISM: ENERGY UTILIZATION: Physical Uses of Energy, Chemical Uses of Energy. PART 4. SELF-PERPETUATION: THE STEADY STATE. THE PATTERN OF CONTROL: Principles of Control, Protoplasmic Controls. CELLULAR CONTROLS:

Genes, Vitamins and Hormones. THE BODY FLUIDS: Blood and Lymph, Circulation, Excretion. NERVOUS COORDINATION: The Neural Pathways, The Neural Receptors, The Neural Centers. PART 5. SELF-PERPETUATION: REPRODUCTION. THE PATTERN OF REPRODUCTION: Molecular and Cellular Reproduction, Organismic Reproduction. REPRODUCTION: MONERA, PROTISTA, METAPHYTA: Monera, Protista, Metaphyta. REPRODUCTION: METAZOA: Reproductive Patterns, The Gametes, The Embryo. PART 6. SELF-PERPETUATION: ADAPTATION. HEREDITY: Genes and Traits, Mendelian Inheritance, Non-Mendelian Inheritance. THE MECHANISM OF EVOLUTION: Background, The Forces of Evolution, The Nature of Evolution. THE COURSE OF EVOLUTION: The First Three-Quarters, The Last Quarter, The Evolution of Man. GLOSSARY. INDEX.

WELLS AND WELLS—General Biology

By HARRINGTON WELLS, University of California, Santa Barbara, and PATRICK H. WELLS, Occidental College.

520 *pp.*, 7¼ *x* 9⅞, 309 *illus.* (1956)..$7.95*c*

Laboratory Exercises in Biology (Wells, Wells, and Muller)

212 *pp.*, 8½ *x* 11, 30 *illus.* (1956)....$3.95*c*

Treats the social implications of biology and includes a historical review of the development of biological concepts, discussions of the structure and function of biological organisms and the life processes of plants and animals, and social biology from the standpoint of human disease and human welfare.

CONTENTS—BASIC BIOLOGY. Biology in History. The Concept of Evolution. Protoplasm and the Cell. How Life Develops. Environment and Ecology. THE LIVING WORLD. Lower Plants. Seed Plants. Unicellular Animals. Lower Invertebrates. Worms and Mollusks. Arthropods. Echinoderms and Lower Chordates. Fishes. Amphibians and Reptiles. Birds and Mammals. COMPARATIVE BIOLOGY. Nutrition. Respiration, and Circulation. Excretion. Motion. Reception and Response. Growth and Reproduction. SOCIAL BIOLOGY. Biology and Human Disease. The Endocrine Control Mechanism. Inheritance. Conservation of Natural Resources. Economic Biology. Biology and Society. Appendix.

Field Biology

BENTON AND WERNER—Principles of Field Biology and Ecology

By ALLEN H. BENTON, State University College, Fredonia, N.Y., and WILLIAM E. WERNER, Blackburn College.

317 *pp.*, 6 *x* 9, 122 *illus.* (1958).....$7.25*c*

Covers the history of American field biology, and explores current trends in such fields as behavior study, ecology, population dynamics, and economic biology. In addition, it explains the techniques of use of biological literature and the way in which a problem in field biology is carried out and its results published. The book provides an introduction to outdoor biology that illustrates how the scientific method is utilized in field work, and deals with the major areas of inquiry and study of modern natural historians. Workbook available.

CONTENTS—Preface. Introduction. What, Why and How. A Brief History of American Field Biology. Taxonomic Principles. Ecological Principles. Terrestrial Plant Succession. Aquatic Plant Succession. Economic Field Biology. Principles of Population Study. Principles of Behavior Study. Principles of the Use of Literature. The Choice and Conduct of a Field Problem. Glossary. Appendix.

Human Biology

BAITSELL—Human Biology

By GEORGE ALFRED BAITSELL, Yale University. *Pub. in Zool. Sc.* Second Edition.

689 *pp.*, 6 *x* 9, 387 *illus.* (1950).....$7.95*c*

Presents the pertinent facts of biology from the vantage point of the organism, man. The second edition presents more "general biology" data. An entirely new introductory chapter is helpful in orienting students who have little or no training in chemistry. Illustrative material is strengthened by inclusion of more than 100 additional figures.

CONTENTS—The World of Life. Protoplasmic Activities. Organization of the Human Body. Biology of Nutrition. Biology of Respiration. Biology of Secretion. Biology of Excretion. Biology of the Vascular System. Biology of the Skeletal System. Biology of the Muscular System. Biology of Growth and Reproduction. Biology of Inheritance. Human Heredity. The Web of Life. Biology of Diseases. Appendix. Index.

HENSILL—The Biology of Man

By JOHN S. HENSILL, San Francisco State College.

440 *pp.*, 6 *x* 9, 242 *illus.* (1954).....$6.95*c*

Designed to meet the needs of those beginning the study of the biological sciences. With the life history of man as its central theme, it facilitates a fuller understanding on the part of the student of those processes which are so often taken for granted, and an appreciation of the significance that biological science has in our modern society.

CONTENTS—Preface. The Basic Nature of Living Substance. The Basic Nature of Living Organisms. From Proton to Protein. The Substance of Life. The Ways of Life. Modern Man and His Origin. The Study of Inheritance. The Inheritance of Human Characteristics. Development. Pregnancy and Birth. Growth and Cancer. Hormonal Control. Nervous Control. Body Framework. Body Fluids. Digestion. The Fate of Foods. Nutrition and Foods. The Disease Process. The Invading Agents. Reproduction. Index.

Biophysics

STACY, WILLIAMS, WORDEN, AND McMORRIS—Essentials of Biological and Medical Physics

By RALPH W. STACY, Ohio State University, DAVID T. WILLIAMS, Batelle Memorial Institute, RALPH E. WORDEN and REX McMORRIS, Ohio State University.

586 *pp.*, 6 *x* 9, *illus.* (1955).....$9.95*c*

Unifies the broad field of biophysics into a set of principles. The applications of physics to the field of biology are clearly discussed and the characteristics peculiar to both fields are shown. Basic facts of instrumentation are given at the beginning of each chapter and the clinical medical applications of the material are given at the end of the chapter. No other book presents such clinical information in close relation to the theory.

CONTENTS—Introduction. Fundamental Concepts of Biophysics. Mechanical Biophysical Systems. Heat and Thermodynamics in Life. Bioacoustics. Biophysical Studies Involving Light. Gas Physics in Biology. Fluid Flow Systems in Biology. Electrical Systems in Biology. Nuclear Physics in Biology. Theoretical Biophysics. Appendixes. Index.

STACY—Biological and Medical Electronics

By RALPH W. STACY, The Ohio State University.

308 *pp.*, 5⅝ *x* 8⅜, 184 *illus.* (1960)..$9.95*r*

A text and reference ideally suited for students, laboratory workers, and clinicians using modern electronic apparatus for biological or medical research, or for clinical purposes. A background in electronics is not required. The book begins with a discussion of the theoretical concepts of instruments, including frequency response characteristics, then presents the applications of these concepts with discussions of actual instruments and how to use them. Included are the selection and use of various types of apparatus, the criteria to determine the adequacy of an instrument for a particular

job, and a description of currently available equipment.
CONTENTS—Instrumentation as a Science. The Theory of Measurement. Fundamentals of Electricity. Vacuum Tubes. Electronic Circuitry. Detecting and Sensing Elements. Recording and Read-out Devices. Complete Instrumentation Schemes. Troubleshooting Instruments. Transistorizing the Laboratory. Computers as Laboratory Instruments. Appendices: Color Codes Used in Electronic Components. Table of Standard Component Values. Chart of Resonant Circuit Data. Index.

SUCKLING—Bioelectricity
By E. E. SUCKLING, M.S., D.E.E., Marey Institute, Paris.
228 *pp.*, 5⅜ *x* 8, 92 *illus.* (1961)....$8.75*m*
Intended to supply the technical background necessary to understand electrophysiologic methods, this work is written at an elementary level easily understood by those with only a meager background in physics and electrical technology. The book begins with an explanation of simple electrical theory and introductory electronics specifically designed for the physician and other workers in electrophysiology. This information is then used as background to explain electrophysiologic phenomena of the body and to relate these phenomena to their methods of measurement and recording. A definite attempt has been made to present the details of technique which generally are not easily found and such subjects as electrodes, blocking and distortion effects, and impedance matching are discussed. Dr. Suckling, experienced in the field, is trained in both physiology and electrical engineering.
CONTENTS—Electric Current Flow. Varying Current. Amplifiers. Recording Methods. Basis of Bioelectric Potentials. Potentials from the Heart. Skeletal Muscle. The Sensory System. The Nervous System and the Brain.

Molecular Biology

ALLEN—The Molecular Control of Cellular Activity
Edited by JOHN M. ALLEN, University of Michigan.
336 *pp.*, 6 *x* 9, 110 *illus.* (1962)....$10.50*c*
This reference symposium covers topics of timely interest in cellular biology, discusses the goals of research in this area, and reviews recent contributions to our understanding of the molecular organization of the cell. In compiling this volume, every effort has been made to view the cell as a totality and to cover topics most pertinent to a comprehension of the regulation of cellular activity in terms of molecular action and interaction.
CONTENTS—From Cell to Molecule, *Dr. Paul Weiss.* Nucleic Acids and Cell Morphology in Dipteran Salivary Glands, *Dr. Hewson Swift.* Nucleo-cytoplasmic Relations in Normal and Malignant Cells, *Dr. Torbjörn Caspersson.* The Relation of Cell Structure to Metabolic Activity, *Dr. Philip Siekevitz.* The Fine Structure of the Gene, *Dr. M. Demerec.* The Genetic Control of Protein Specificity, *Dr. Vernon M. Ingram.* The Activity of Isolated Viral Deoxyribonucleic Acid in the Genesis of Proteins within Bacterial Cells, *Dr. David S. Hogness.* The Structure of DNA and RNA, *Dr. Robert L. Sinsheimer.* Biologic Synthesis of Deoxyribonucleic Acid, *Dr. Arthur Kornberg.* Soluble Ribonucleic Acid and Protein Synthesis, *Dr. Paul C. Zamecnik.* Aspects of Genetic and Metabolic Control of Protein Synthesis, *Dr. Arthur B. Pardee.* The Control of Cellular Metabolism, *Dr. Hans A. Krebs.* The Role of Steroid Hormones in the Control of Metabolic Activity, *Dr. Claude A. Villee.*

ALLEN—The Nature of Biological Diversity
By JOHN ALLEN, University of Michigan.
304 *pp.*, 6 *x* 9, *illus.* (1963).....$11.50*r*
This volume is a result of lectures at the University of Michigan in 1961. This features a general coverage of the area of development given by a group of men who are recognized experts in their field. The papers examine elements responsible for diversification of cellular structures and functions. The volume deals nearly exclusively with the development of heterogeneity at the cellular and sub-cellular level.
CONTENTS—The Origin of Organic Molecules, by *Harold Urey.* The Evolution of Photosynthetic Mechanisms, by *Melvin Calvin.* Biochemistry and Evolution, by *Ernest Baldwin.* The Nature and Diversity of Catalytic Proteins, by *Paul Boyer.* The Origin of Specific Proteins, by *Clement Markert.* Diversity at the Sub-cellular level and Its Significance, by *Keith Porter.* The Genetics of Diversity in Cellular Organization, by *Tracy Sonneborn.* Microenvironmental Influences in Cellular Differentiation, by *Clifford Grobstein.* Growth and Differentiation in the Nervous System, by *Rita Levi-Montalcini.* Differentiation and Morphogensis in Insects, by *Carroll Williams.*

Genetics and Evolution

EHRLICH AND HOLM—Process of Evolution
By PAUL R. EHRLICH and RICHARD W. HOLM, both of Stanford Univ. *Pub. in Biol. Sc.*
320 *pp.*, 6 *x* 9, 94 *illus.* (1963).....$8.95*c*
A modern approach to evolution which analyzes the mechanisms that have resulted in past and present organic diversity. Without attempting a systematic description of the products of evolution, the book relates what is known and points out what needs to be investigated in this most central of modern biological sciences. Among its significant inclusions are a simplified but thorough discussion of population genetics; a comprehensive treatment of different genetic systems and their evolution; an up-to-date treatment of evolution in natural populations; discussions of the philosophical and practical problems facing the scientist interested in the study of evolution; and above all, its emphasis on the processes rather than the products of evolution. For the qualified undergraduate or the professional biologist not specifically concerned with evolution.
CONTENTS—Organisms-Origin and Function. The Origin of Life. Units of Replication. Genetics. Development. Populations-Properties. Populations. The Theory of Population Genetics. Changes in Populations. Genetic Systems. Populations-Differentiation. The Differentiation of Populations. Major Patterns of Variation. Human Evolution-Physical and Cultural. The Evolution of Man. The Theory of Evolution.

SHULL—Evolution
By A. FRANKLIN SHULL, formerly University of Michigan. *Pub. in Zool. Sc.* Second Edition.
322 *pp.*, 6 *x* 9, 143 *illus.* (1951).....$7.50*c*
Designed for courses on animal evolution which stress the genetic aspects. The treatment includes origin of change by mutation and chromosome reorganization, demonstration that such changes occur in nature, recombination of such changes in sexual reproduction, polyploidy, geographic races, reproductive isolation, the formation of societies (including man's)

and the origin of life. The second edition treats evolution from the naturalist's standpoint as well as from the geneticist's.

CONTENTS—Preface. The Evolution Concept over the Centuries. Order in Diversity among Living Things. Likeness Implying Kinship. Geographic Distribution and the Time and Place of Origin of Species. Fossils Explained by Evolution. Origin of Man. Mechanism of Permanence and Change. Primary Variation. Genetic Variation in Wild Populations. Recombination. Guidance of Evolution. Isolation. Geographic Races and Speciation. Societies of Beasts and Men. Origin of Life. Index.

Genetics Principles

COLIN—Elements of Genetics

Mendel's Law of Heredity with Special Application to Man

By EDWARD C. COLIN, formerly Chicago Teachers' College. Third Edition.

498 *pp.*, 6 *x* 9, 176 *illus.* (1956).....$7.95*c*

Covering the basic facts, principles, and theories of modern genetics as illustrated in plants, animals, and man, this book makes use of the historical approach so that the reader may be shown the logical development of the science of genetics on the foundation laid by Mendel a century ago.

CONTENTS—Preface. To the Student. Mendel: Student, Priest, Teacher, Investigator. Dominance and the Law of Segregation. Dihybrids: The Law of Independent Assortment. The Rediscovery of Mendel's Work. Chromosomes and Mendel's Laws. The Factor Principles: Action and Interaction of Genes. Multiple Alleles. Linkage and Crossing Over. Sex Determination and Sex Differentiation. Sex-linked Heredity. Heredity and Environment. The Gene and Mutation. Inbreeding and Crossbreeding. Heredity and Evolution. Heredity in Man. I. Heredity in Man. II. Improvement of the Human Species (Eugenics). Domesticated Plants. Domesticated Animals. Appendix A: English Translation of Mendel's Autobiography. Appendix B: Page One of Mendel's Paper on Peas in English. Laboratory Exercises in Genetics. Glossary. Index.

HERSKOWITZ—Study Guide and Workbook for Genetics

By IRWIN H. HERSKOWITZ, St. Louis University.

274 *pp.*, 8½ *x* 11, *illus.* (1960).....$3.95*c*

Correlated Text-Film Series—48 motion pictures.....each $160.00

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Correlated with 48 half-hour films of lectures by 15 leading geneticists and Principles of Genetics by E. W. Sinnott, L. C. Dunn and Th. Dobzhansky, it can also be used effectively with other standard genetics texts. A chapter is devoted to each of the films and specific suggestions are given for pre-lecture assignments, lecture notes, post-lecture assignments and questions for discussion. Periodic examinations appear after different groups of lectures and cover the subject matter as a whole.

CONTENTS—Introduction to the Lectures. Heredity and Variation. Mendel's Proof of the Existence of Genes. Mitosis. Meiosis. Human Traits Showing Simple Mendelian Inheritance. Independent Segregation. EXAMINATION I. Expression and Interaction of Genes. Multiple Factor Inheritance. Allelism, and Lethals. Pleiothropism, Penetrance and Expressivity. Twins, Nature and Nurture. Sex-Linked Inheritance. Sex Determination I. Sex Determination II. EXAMINATION II. Linkage. Crossingover in Terms of Meiosis. Crossingover, Chiasmata, and Genetic Maps. Changes in Genome Number. Chromosome Addition and Subtraction. Structural Changes in Chromosomes I. Structural Changes in Chromosomes II. "Spontaneous" Gene Mutation. Mutagen-induced Gene Mutation. EXAMINATION III. Genetics of Mendelian Populations. Genetic Loads in Mendelian Populations. Selection. Genetic Death and Genetic Radiation Damage. The Genetics of Race. The Origin of Species. Interspecific Hybridization and Its Consequences. Inbreeding and Heteroisis. Cytogenetics of Oenothera. EXAMINATION IV. Developmental Genetics I. Developmental Genetics II. Cytoplasmic Heredity. Nucleo-Cytoplasmic Relations in Paramecium. Pseudoallelism. Variegated Pericarp on Unstable Allele in Maize. DNA Structure and Replication. Biochemical Genetics I. Biochemical Genetics II. Gene Structure and Gene Action. Chromosome Chemistry and Genetic Activity. EXAMINATION V. Bacterial Genetics: Clones. Bacterial Genetics: Sexual Reproduction. Bacterial Genetics: Genetic Transduction. Virus Genetics: Bacteriophage. Virus Genetics: Plant and Animal Viruses. Biochemical Origin of Terrestrial Life. EXAMINATION VI.

HILL AND HILL—Genetics and Human Heredity

By J. BEN HILL, deceased; and HELEN D. HILL, Assistant Geneticist, Agricultural Research Service, U.S.D.A.

526 *pp.*, 6 *x* 9½, *illus.* (1955).....$7.50*c*

The reader turning for the first time to the theory of genetics will find this an unusually clear and well-organized guide, because theory and application are so carefully presented, and numerous cogent examples and illustrations from both the plant and animal worlds are used. New terms are defined at their first appearance, cross-references are included, and problems, reading references, and questions round off each chapter. Summaries occur at appropriate intervals.

CONTENTS—Preface. The Biological Background of Genetics. Cells, Chromosomes, and Genes. Actions and Interactions of Genes in Development of Heritable Characters. Influence of Multiple Genes in Development. Biometry—the Statistics of Genetics. Variations and Germinal Changes. Development of Heritable Characters. Sex Determination and Sexual Types. Twins and Human Heredity.

SINNOTT, DUNN, AND DOBZHANSKY—Principles of Genetics

By E. W. SINNOTT, formerly Yale University, LESLIE C. DUNN and THEODOSIUS DOBZHANSKY, Columbia University. *Pub. in Bot. Sc.* Fifth Edition.

459 *pp.*, 6⅜ *x* 9¼, *illus.* (1958)....$7.95*c*

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This modernized revision of the standard senior-graduate textbook in genetics emphasizes elementary principles and at the same time makes the student aware of the wide range of problems disclosed by recent research. Biochemical aspects and the genetics of microorganisms are emphasized increasingly and the treatment of human heredity has been expanded. Much new material on lower fungi, bacteria and viruses is distributed throughout. A new chapter on varieties of sexual reproduction has been included.

CONTENTS—Heredity and the Continuity of Life. Heredity and Environment. Mendel's Law of Segregation. Segregation of Genes and Chromosomes. Simple Mendelian Traits in Man. Mendel's Principle of Independent Assortment. The Expression and Interaction of Genes. Multiple-factor Inheritance. Allelism and Pleiotropism. Lethal Genes, Pentrance, and Expressivity. The Nature-nurture Problem in Man: Twin Studies. Sex-linked Inheritance. Linkage and Crossing Over. Genetic Maps of Chromosomes. Chromosome Aberrations and Cytological Maps. Spontaneous Mutation. Induced Mutation. Genes in Populations. Crossing, Selfing, Inbreeding, and Heterosis. Genetics of Race Formation. Genetics of Species Formation. Determination of Sex. Varieties of Sexual Reproduction. Physiological Genetics. The Genic Control of Development. Cytoplasm in Heredity and Development. The Elements of the Genetic System. Organization of the Genetic Material. Statistical Inference in Genetics. Appendix: Experiments in Plant Hybridization, by Gregor Mendel. Bibliography. Index.

SHULL—Heredity

By A. FRANKLIN SHULL, formerly University of Michigan. *Pub. in Zool. Sc.* Fourth Edition.

310 *pp.*, 6 *x* 9, 153 *illus.* (1948).....$6.95*c*

A basic text on the principles of biological inheritance, with particular emphasis on human heredity. The fourth edition has been extensively rewritten in terms of the important new developments in genetics since 1938, and includes a discussion of the work of Beadle and others on the biochemical effects of gene mutation. New knowledge of the Rh factor in human blood, with practical applications, is incorporated throughout the book, and there are many new illustrations.

CONTENTS—Preface. Rise of Modern Genetics. Cells and Their Origin. Origin of New Individuals. Mechanism of Heredity. Simple Heredity. Dominance. Backcross. Testcross. Sex-linkage. Multiple Alleles. Lethal Characters. Two or More Independent Pairs of Genes. Interactions of Genes. Modification by Environment. Linkage. Proof That Genes Are in Chromosomes. Nature and Action of Genes. Non-Mendelian Inheritance. Determination of Sex. Heredity and Evolution. Inheritance of Human Structural Characters. Human Heredity: Physiological Characters. Inheritance of Mental Characters.

Human Genetics

LI—Human Genetics
Principles and Methods
By CHING CHUN LI, Ph.D., University of Pittsburgh.
224 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961)....$8.50*m*

Dr. Li presents in a clear, concise manner the fundamental principles of human genetics for students of biology and medicine and the medical practitioner. The entire text is devoted to discussions of human families and human populations, and particular hereditary diseases or traits are used only as examples to illustrate very general underlying principles. The topics discussed in this work range from family and population laws of heredity to genetic linkage, marriage and parenthood counseling, and mutation—selected problems. The author emphasizes the analytical aspect rather than dealing with purely descriptive aspects of genetics. Recent advances in human genetics such as chromosal aberrations in man, analytical methods to study association between blood groups and disease, and polymoyshism in human populations are included. This work presents human genetics from a dynamic viewpoint rather than the usual static presentation and has a unique chapter on equilibrium which clearly explains one of the most poorly understood subjects in human genetics.

CONTENTS—1. The Family Laws. 2. The Population Laws. 3. Study of Population and Families. 4. Multiple Alleles and Blood Types. 5. Index Case and Recessive Proportion. 6. Association and Relative Risk. 7. Simple Equilibrium Models. 8. Two Pairs of Loci and Linkage. 9. Mutation and Selection. 10. Inbreeding and Cousin Marriages. 11. Variance of Quantitative Traits. 12. Correlation between Relatives.

Ecology

General Ecology

WOODBURY—Principles of General Ecology
By ANGUS M. WOODBURY, formerly University of Utah.
503 *pp.*, 6 *x* 9, 167 *illus.* (1954).....$8.50*c*

Integrates *all* the factors of environment—both physical and biotic. The section devoted to physical environment discusses the living organisms in their relation to air, water, and land; uses of energy; and their adaptations to physical environment. The section on the biotic environment of living organisms treats them as community members in contact with other members together with their dynamic interrelationships involving morphological, physiological, and behavioristic adaptations.

CONTENTS—Part I. General Considerations—Introduction. Historical Perspective. Organisms and Environment. Part 2. The Physical Environment—The Solid Earth—Soils. The Liquid Cover of the Earth—Water. Air and Its Constituents. Radiant Energy. Gravity and Periodicities. Climate. Adaptations That Meet the Physical Environment. Part 3. Biotic Interrelationships—Biotic Communities. Development of Biotic Communities. Community Analysis. Conditions of Existence: Energy, Space, Shelter, Protection, Comfort. Food Relations. Reproduction and Species Persistence. Population Problems. Dispersal and Evolution. Biotic Rhythms and Migrations. Biotic Adaptations. Historical Distribution. Geographic Distribution. Consortism. Social Reforms: Aggregations. Societies. Ecology and Human Affairs. Bibliography. Index.

Plant Ecology

WEAVER AND CLEMENTS—Plant Ecology
By JOHN E. WEAVER, University of Nebraska, and FREDERIC E. CLEMENTS, Ecologist, Division of Plant Biology, Carnegie Institution of Washington. *Pub. in Bot. Sc.* Second Edition.
601 *pp.*, 6 *x* 9, 271 *illus.* (1938)....$11.00*c*

A summary statement of the progress of plant ecology. The approach is physiological and emphasis is placed upon methods of studying vegetation in the field. A series of stimulating, workable experiments is included.

CONTENTS—Vegetation; Its Origin, Development, and Structure. Methods of Studying Vegetation. Plant Succession. The Units of Vegetation. Initial Causes of Succession. Migration, Ecesis, and Aggregation. Competition and Invasion. Soil in Relation to Plant Development. Reaction and Stabilization. Coaction and Conservation. Relation of Underground Plant Parts to Environment. Humidity, Wind and Evaporation. Temperature. Light Plant Response as a Measure of Environment. Adaptation to Water. Plant and Plant Communities as Indicators. Climax Formations of North America.

Histology and Microtechnique

CORRINGTON—Working with the Microscope

By JULIAN D. CORRINGTON, University of Miami.

418 *pp.*, 6 *x* 9, 121 *illus.* (1941).....$6.95*t*

A comprehensive, practical manual for all except the advanced professional concerned with microscopy and microtechnique. Detailed directions cover the operation of the microscope as well as the preparation of all types of slides—whole mounts, smears, sections, and isolations. Full instructions explain how to fix, stain, section, and mount materials so they may be examined under the microscope to the best possible advantage, proceeding from the simplest of mounts to the highly technical.

CONTENTS—The Microscope. Temporary Mounts for Immediate Study. Simple Balsam Mounts. Procedures in Microtechnique. Processed Balsam Mounts. Cell Mounts. Stained Whole Mounts. Smear Preparations. Bacteria. Microscopic Skeletons. Grinding Hard Objects. Sectioning: Manual and Freezing Methods. Sectioning: Celloidin Method. Sectioning: Paraffin Method. The Newer Techniques. Special Preparations. Preparation and Use of Reagents.

GRAY—Handbook of Basic Microtechnique

By PETER GRAY, University of Pittsburgh. Second Edition.

252 *pp.*, 6 *x* 9, *illus.* (1958).....$6.95*c*

A well-written, concise presentation of the methods commonly used in the preparation of microscope slides, including examples from the fields of bacteriology and pathology. A new section on the Microscope and Elementary Photomicrography has been added and other sections have been altered to include new methods, formulas, and illustrations and extremely valuable simple "how-to-do-it" illustrations.

CONTENTS—Preface. PART I. THE MICROSCOPE. Principles of Microscopy. The Use of the Microscope. Photomicrography. PART II. THE PREPARATION OF MICROSCOPE SLIDES. Types of Microscope Slide. Materials and Equipment. Fixation and Fixatives. Stains and Staining. Dehydrating and Clearing. Mounts and Mountants. Making Wholemounts. Making Smears and Squashes. Making Sections. Cleaning, Labeling and Storage of Slides. PART III. SPECIFIC EXAMPLES OF SLIDE-MAKING. Preparation of a Wholemount of a Mite by the Method of Berlese. Preparation of a Wholemount of Pectinatella Stained in Grenacher's Alcoholic Borax Carmine. Preparation of a Wholemount of 33-hour Chick Embyro, Using the Alum Hematoxylin Stain of Delafield. Preparation of a Wholemount of the Liver Fluke, Using the Carmalum Stain of Mayer. Smear Preparation of Monocystis from the Seminal Vesicle of an Earthworm. Smear Preparation of Human Blood Stained by the Method of Wright. Staining a Bacterial Film with Crystal Violet by the Technique of Lille. Demonstration of Gram-positive Bacteria in Smear Preparation by the Method of Gram. Demonstration of Tubercle Bacilli in Sputum by the Technique of Neelsen. Preparation of a Squash of the Salivary Glands of Drosophila Stained in LaCour's Acetic Orcein. Preparation of a Transverse Section of a Root, Using the Acid Fuchsin-Iodine Green Technique of Chamberlain. Preparation of a Transverse Section of the Small Intestine of the Frog Stained with Celestine Blue B-Eosine. Preparation of a Transverse Section of a Stem of Aristolochia Stained by the Method of Johansen. Demonstration of Spermatogenesis in the Rat Testis, Using the Iron Hematoxylin Stain of Heidenhain. Preparation of a Transverse Section of the Tongue of a Rat, Using Celestine Blue B Followed by Picro Acid Fuchsin. Preparation of a Transverse Section of Amphioxus, Using the Acid Fuchsin-Aniline Blue-Orange G Stain of Mallory. Demonstration of Diplococci in the Liver of the Rabbit, Using the Phloxine-Methylene Blue-Azur II Stain of Mallory, 1938. Preparation of a Series of Demonstration Slides, Each Having Six Typical Transverse Sections of a 72-hour Chick Embryo, Using the Acid Alum Hematoxylin Stain of Ehrlich. Index.

GRAY—The Microtomist's Formulary and Guide

By PETER GRAY, University of Pittsburgh.

794 *pp.*, 87 *illus.* (1954).....$14.75*c**

Complete, concise, and practical, this work is divided into two parts and thus comprises two books bound into a single volume—the first to be used as a textbook, the second, as a reference source. Part I consists of detailed descriptive material. Part II contains virtually all solutions employed during the last 50 years.

CONTENTS—Part I—The Art of Making Microscope Slides. Dry Wholemounts. Fluid Wholemounts—Aqueous Type. Fluid Wholemounts—Non-Aqueous Type. Wholemounts in Gum Media. Wholemounts in Jelly Media. Wholemounts in Resinous Media. Smear Preparations from Fluid Material. Smear Preparations from Cut Surfaces. Squash Preparations from Solid Bodies. Ground Sections. Sections of Free Material. Paraffin Sections. Nitrocellulose Sections. Sections from Double Embedded Material. Frozen Sections. Injections. Part II—Methods and Formulas Used in Making Microscope Slides.

** Not for sale in the United Kingdom and British Commonwealth, except Canada.*

GREEP—Histology

Edited by ROY O. GREEP. Written by DR. GREEP and 12 contributors.

953 *pp.*, 6¼ *x* 9½, 648 *illus.* (1954).$12.50*m**

Each chapter and each section is specifically pointed toward the application of histology to the *human* being. The book emphasizes human structures and depicts them in their true, dynamic nature.

CONTENTS—Structure of Organisms. Cell Structure and Function. Histochemistry. Embryological Origin of Tissues. Epithelium. Mesenchyma and Connective Tissue. Adipose Tissue. Cartilage. Bone. Muscular Tissue. Nervous System. Blood Vascular System. Blood. Development of the Blood Cells and Sites of Blood Cell Production. Bone Marrow. Lymphatic System. Origin of Blood Cells and Their Relationship to Connective Tissue. Skin and the Epidermal Derivatives. Oral Cavity. Respiratory System. Alimentary Tract. Liver and Gall Bladder. Pancreas. Urinary System. Female Reproductive System. Placentation. Mammary Glands. Male Reproductive System. Hypophysis. Pineal Body. Thyroid Gland. Parathyroid Glands. Adrenal Glands. Eye. Ear. Index.

** Not for sale in the United Kingdom and British Commonwealth.*

HALL—Introduction to Electron Microscopy

By CECIL E. HALL, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

451 *pp.*, 6 *x* 9, 351 *illus.* (1953)....$11.50*r*

Compact and up to date, this text on the theory and uses of the electron microscope includes an outline of elementary electron optical theory, discussions of the construction and properties of electron lenses and electron microscopes, the interactions of electrons with matter, and the characteristics of electron images.

CONTENTS—Preface. Elements of Physical Theory. Electrons in Electrostatic Fields. The Ideal Lens. The Electrostatic Lens. The Magnetic Lens. Aberrations and Diffraction. The Electron Microscope. Commercial Electron Microscopes. Scattering Phenomena. Image Characteristics. Methods in Electron Microscopy. Examples from Applied Microscopy. Appendix A. Examples of Stereoscopic Pairs. Appendix B. Answers to Some of the Problems. Appendix C. Constants and Conversion Factors. Index.

JOHANSEN—Plant Microtechnique

By DONALD A. JOHANSEN, formerly Stanford University. *Pub. in Bot. Sc.*

523 *pp.*, 6 *x* 9, 110 *illus.* (1940)....$10.50*c*

Covers in a practical, detailed manner the entire field of botanical microtechnique with the exception of paleobotany and photomicrography. The first section describes the apparatus, reagents, dyes, etc., and the general methods universally employed by botanical

technicians. The second section is a systematic treatment along phylogenetic lines of all plant groups occurring in the United States and Canada for which information is available with regard to their manipulation.

CONTENTS—GENERAL METHODS. Introduction. Laboratory Rules. Apparatus. Reagents. Killing and Fixation. Stains. Staining Procedures. Special Methods. Wholemount Methods. The Glycerin Method. Celloidin Methods. Paraffin Methods. Smear Methods. Cytological Methods. Microchemical Methods. Sources of Materials. SPECIAL METHODS FOR THE VARIOUS PHYLA. Schizophyta. Chlorophyta. Euglenophyta. Pyrrophyta. Chrysophyta. Phaeophyta. Cyanophyta. Rhodophyta. Myxothallophyta. Mycophyta. Bryophyta. Pteridophyta. Cycadophyta. Coniferophyta. Anthophyta.

LILLIE—Histopathologic, Technic, and Practical Histochemistry

By R. D. LILLIE, Louisiana State University. Second Edition.

501 *pp.*, 6⅛ *x* 9⅜ (1954).....$10.95*m*

A concise and remarkably helpful guide to laboratory procedures. Methods are made so clear in this text that even the beginner can follow them without the aid of a more experienced person. Data is given on all the essential controllable factors—optimal times, temperatures, pH levels, reagent concentrations, etc. Written in a lucid, straightforward manner, the book places emphasis on the practical and factual rather than on the purely theoretical.

CONTENTS—Microscopy. Equipment. Fixation. Sectioning. Stains and Staining. General Staining and Mounting Procedures. General Oversight Methods. Nuclei and Nucleic Acids. Amino Acids, End Groups, etc. Cytoplasmic Granules. Enzymes. Endogenous Pigments. Exogenous Pigments and Minerals. Various Cell Products. Fats and Lipoids. Connective Tissue Fibers. Bacteria, Protozoa, and Other Parasites. Glia and Nerve Cells and Fibers. Hard Tissues. Decalcification. Various Special Procedures. Buffers, Buffer Tables, Normal Acids, and Alkalies. Index.

STILES—Handbook of Histology

By KARL A. STILES, Michigan State University. With an Introduction by MELVIN H. KNISELY. Fourth Edition.

240 *pp.*, 6 *x* 9, *illus.* (1956).....$3.95*m*

This is the fourth edition of the widely used *Handbook of Microscopic Characteristics of Tissues and Organs*, now brought up to date with new chapters on "How to Interpret Sections" and "Reticuloendothelial System (Macrophage System)," and new sections on human blood, lymph, nipple, areola, coccygeal body. This outline-form handbook has proved indispensable in histology courses—as a laboratory manual, as a syllabus with lectures, as a basis for review, as an aid to students preparing for quizzes or boards, as a short text to be used as the basis for reading in the big standard books. In the new edition Dr. Stiles has enlarged the glossary and shown pronunciation by syllable division and accents, and has revised the illustrative material to complement rather than duplicate the illustrations of the big standard histology texts.

WERNER—Synopsis of Histology

By HENRY J. WERNER, Ph.D.

256 *pp.*, 6⅛ *x* 8⅛ (1961).....$4.25*m*

Written in a lucid, synoptic manner, this text presents a summary of the salient non-controversial features of human histology. The approach is a classic one, beginning with the cell and progressing through the tissues to the organs. First, the histocytological aspects in which the cell, its dividing capacities, its organoids, and its inclusions are presented. Second, the classical concept of histology—tissue—is presented. Finally, to complete the picture, specific tissue arrangement—organology—is presented. This manual is not designed as a substitute for either the text or for current literature. It is intended to (1) facilitate the recognition of histological sections, (2) highlight salient features of cells, tissues, and organs, and (3) to serve as a concise source of review in time of "emergencies."

CONTENTS—PART I. HISTOCYTOLOGY. The Cell. PART II. GENERAL HISTOLOGY. Epithelium. Connective and Supportive Tissues. Blood and Lymph. Muscular Tissue. Nervous Tissue. Reticuloendothelial System. PART III. SPECIAL HISTOLOGY. Circulatory System. Lymphoid Organs. Integumentary System. Mouth and Pharynx. Alimentary Tract. The Glands of Digestion. Respiratory System. Urinary System. Male Reproductive System. Female Reproductive System. Endocrine System. Organs of Special Sense.

WINDLE—Textbook of Histology

By WILLIAM F. WINDLE, National Institute of Neurological Diseases and Blindness, National Institutes of Health, Bethesda, Maryland. Third Edition.

573 *pp.*, 6 *x* 9, *illus.* (1960).....$11.50*c*

This classroom text is directed to the student encountering mammalian histology for the first time. This edition includes new facts of importance and advancements evolving from the recent progress in this field. An attempt has been made to synthesize current concept of fine structure and relate them to those of light microscopy. Light microscopy and conventional light-microscope histology are covered. Clear electron micrographs illustrate the fine structure of cells and tissues. Drawings and photomicrographs replace and supplement the light-microscope pictures of earlier editions.

CONTENTS—Preface. Acknowledgments. Tissues. Cells. Epithelium. Blood and Lymph. Bone Marrow. Lymphatic Tissue and Organs. Nervous Tissue. Peripheral Nervous System. Brain and Spinal Cord. Membranes. Visual and Auditory Organs. Integument. Mouth and Pharynx. Tubular Digestive Organs. Liver and Pancreas. Endocrine Organs. Respiratory Organs. Excretory Organs. Male Reproductory Organs. Female Reproductory Organs. Mammary Glands. Appendix I. Units of Measurement. Appendix II. Motion Pictures. Index.

Botany

McGRAW-HILL PUBLICATIONS IN THE BOTANICAL SCIENCES

(Pub. in Bot. Sc.)

Edmund W. Sinnott, Consulting Editor
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Haupt—Laboratory Manual of Elementary Botany
Haupt—Plant Morphology
Hill—Economic Botany
Hill, Overholts, Popp, and Grove—Botany
Johansen—Plant Microtechnique
Kramer—Plant and Soil Water Relationships
Kramer and Kozlowski—Physiology of Trees
Lilly and Barnett—Physiology of the Fungi
Maheshwari—An Introduction to the Embryology of the Angiosperms
Miller—Plant Physiology
Pool—Flowers and Flowering Plants
Sharp—Fundamentals of Cytology
Sinnott—Plant Morphogenesis
Sinnott, Dunn, and Dobzhansky—Principles of Genetics
Sinnott and Wilson—Botany
Smith—Cryptogamic Botany
Vol. I—Algae and Fungi
Vol. II—Bryophytes and Pteridophytes
Smith—The Fresh-water Algae of the U. S.
Swingle—Textbook of Systematic Botany
Weaver and Clements—Plant Ecology

General Botany

EMERSON—Basic Botany

By FRED W. EMERSON, Elon College. Second Edition.

425 *pp.*, 422 *illus.* (1954).....$7.50*c*

An introductory survey of modern botany which weaves the story of plant life into a clear, coherent whole. The illustrations and examples are excellent and numerous. A list of supplemental readings is appended to each chapter, and the appendix contains an additional list of about 100 important references.

CONTENTS—Introduction: Plants and Science. Life and Its Attributes. Leaves, the Producers of Foods. The Uses of Food. Cycles of Energy and Nutrients. The Water Relations of Plants. Roots and Their Functions. The Structure and Functions of Stems. The Plant as a Unit. Plant Genetics. The Evolution of Plants. Kinship and Classification. Schizophyta: Fission Plants. Rhodophyta, Phaeophyta, and Chrysophyta. Protochlorophyta: Green Algae. Mycophyta: Fungi. Bryophyta: Mosses and Liverworts. Psilopsida, Sphenopsida, and Lycopsida. Pteropsida: Filicineae—The Ferns. Pteropsida: Gymnospermae. Pteropsida: Angiospermae. Plant Communities; Constructive Factors. Biotic Communities: Checks and Balances. Important References. Glossary. Index.

HAUPT—An Introduction to Botany

By ARTHUR W. HAUPT, formerly University of California, Los Angeles. *Pub. in Bot. Sc.* Third Edition.

447 *pp.*, 6 *x* 9, *illus.* (1956).....$6.95*c*

Laboratory Manual of Elementary Botany, Third Edition

85 *pp.*, 6 *x* 9, *illus.*, *paperbound* (1956) $2.75*c*

Designed to furnish the reader with a foundation upon which more advanced studies may be based, this revised edition presents clearly and concisely such basic facts and principles concerning plants as are essential to an understanding of their structure, functions, life relations, and evolution. The various phases of the subject are in good balance and the emphasis is placed on the concept of plants as living things.

CONTENTS—THE STRUCTURE, FUNCTIONS, AND LIFE RELATIONS OF SEED PLANTS. Introduction. The Plant Cell. Protoplasm. The Root. The Stem. The Stem (Continued). The Leaf. Metabolism. Growth and Movement. Environmental Relations. The Flower and Fruit. Floral Evolution and Pollination. Seeds and Seedlings. Heredity and Plant Breeding. The Principles of Evolution. THE EVOLUTION OF THE PLANT KINGDOM. The Algae. The Fungi. Liverworts and Mosses. Club Mosses, Horsetails, and Ferns. The Seed Plants. Chief Families of Flowering Plants. Plant Life of the Past. Glossary. Index.

HILL, OVERHOLTS, POPP, AND GROVE—Botany

A Textbook for College

By J. BEN HILL, deceased, LEE O. OVERHOLTS, deceased, HENRY W. POPP, and ALVIN R. GROVE, JR., The Pennsylvania State University and The Pennsylvania State Agricultural Experimental Station. *Pub. in Bot. Sc.* Third Edition.

571 *pp.*, 7½ *x* 9⅞, 415 *illus.* (1960)..$8.95*c*

Covering the entire field of botany, this text may be used as a complete course for students who go no further in botany or as a foundation for all future, more specialized courses in botany and related fields. Every chapter has been partly or completely revised to include current advances in the various fields. Whenever possible, the economic importance of plants and plant parts has been emphasized.

CONTENTS—Preface. The Plant Kingdom; Its Distribution and Importance. Plant Cells. Coloration in Plants; Plant Pigments. Leaves. Metabolism; The Anabolic Phase; Food Synthesis. Roots. Absorption of Water and Inorganic Substances. Stems. Growth and Movement. Flowers. Fruits, Seeds, and Seedlings. Metabolism; The Catabolic Phase; Digestion, Respiration, Fermentation. Heredity. Plant Taxonomy; Divisions of the Plant Kingdom. Algae. Bacteria. Viruses. Actinomycetes, Slime Molds. Fungi. Liverworts and Mosses. Vascular Plants; The Lower Groups. Vascular Plants; The Higher Groups—Seed Plants. Glossary. Index.

SINNOTT AND WILSON—Botany

Principles and Problems

By EDMUND W. SINNOTT, Yale University; and KATHERINE S. WILSON, National Institutes of Health. *Pub. in Bot. Sc.* Sixth Edition.

528 *pp.*, 6 *x* 9, 498 *illus.* (1962)....$8.95*c*

Laboratory Manual for *General Botany*, 5 Ed.

333 *pp.*, 8½ *x* 11 (1956).....$3.75*c*

This thoroughly revised text supplies the necessary facts of plant life plus an incentive to consider the unsolved problems of plant science. Emphasis is on the dynamic aspects of plant science. Changes include: first two chapters rewritten to provide background in what is held to be a reasonable concept of the universe and the place of the earth in relation to the universe; separate chapters discuss bacteria and viruses and fungi; chapter summaries and glossary added; lists of recent research papers and other supplementary material. Questions for thought and discussion retained.

CONTENTS—Preface. The Universe, the Earth, and Life. Plant Science and Its History. Order in Diversity. The Physical Basis of Life. The Root. The Leaf. The Stem. Metabolism. Growth. Development and Morphogenesis. The Plant and Its Environment. Plant Distribution. Reproduction. Heredity and Variation. Plant Evolution. The Plant Kingdom. The Algae. The Fungi. Bacteria and Viruses. The Bryophyta. The Psilopsida. The Oycopsida. The Sphenopsida. The Ferns. The Gymnosperms. Botany and the Future. Glossary. Derivations of Scientific Terms. Books for Outside Reading. Books Useful in Plant Identification. Botanical Gardens.

WEISZ AND FULLER—Science of Botany
By PAUL B. WEISZ and MELVIN S. FULLER, both of Brown University.
576 *pp.*, 8¼ *x* 9¼, 838 *illus.*.....$8.95*c*
Laboratory Manual
120 *pp.*, 8¼ *x* 11 (1963).....$2.95*c*
Utilizing both a scholarly and a literary approach this comprehensive introductory book is oriented toward molecular biology with integrated and analytical presentation. It thoroughly covers the entire field of academic botany and contains valuable sections on modern experimental and analytical botany; botanical morphology; evolutionary-taxanomic botany; and ecological botany. The book contains over 800 photos and line drawings, review questions, comprehensive appendix on plant classification, glossary, and index.
CONTENTS—The Nature of Science. PART I. THE LIVING WORLD: The Origin of Life. The Cell Substance. Cells, Tissues, Organs, and Organisms. Species, Communities, and Habitats. PART II. THE WORLD OF PLANTS: Kinds of Plants: Monera. Protista: Photosynthetic Groups. Protista: Nonphotosynthetic Groups. Metaphyta. Bryophytes and Tracheophytes. The Tracheophyte Groups. PART III. METABOLISM: Environment and Metabolism. Plant Nutrition. Photosynthesis. Energy Liberation. Energy Utilization. PART IV. SELF-PERPETUATION: THE STEADY STATE: The Basis of Control. Genes and Cell Control. Growth Factors and Organismic Control. PART V. SELF-PERPETUATION: REPRODUCTION: The Pattern of Reproduction. Plant Reproduction: Monera and Protista. Plant Reproduction: Metaphyta. Plant Development. PART VI. SELF-PERPETUATION: ADAPTATION: Plant Heredity. Plant Evolution: The Mechanism. Plant Evolution: The Past. Appendix: Outline of Plant Classification. Glossary. Index.

YOUNGKEN—Pharmaceutical Botany
By HEBER W. YOUNGKEN, Ph.M., Ph.D., Sc.D., Massachusetts College of Pharmacy. Seventh Edition.
752 *pp.*, 6 *x* 9, 548 *illus.* (1951)....$7.00*m*
CONTENTS—Scope and Importance of Botany. General Characteristics of Plants. Plant Cells. Leaves. The Root. The Bud and the Stem. Metabolism. The Inflorescence. The Flower. The Fruit. The Seed. Plant Environment. Plant Anatomy. Genetics and Evolution. Classification and Naming of Plants. The Thallophytes—I. Algae. The Thallophytes—II. The Fungi. The Thallophytes—III. The Lichens. The Bryophytes. The Pteridophytes. The Spermatophytes. The Monocotyledons. The Dicotyledons. Appendix I: The Microscope. Appendix II: Histologic Technic. Glossary. Classified List of Reference Works. Index.

Economic Botany

HILL—Economic Botany
By ALBERT F. HILL, Harvard University. *Pub. in Bot. Sc.* Second Edition.
527 *pp.*, 6 *x* 9, 250 *illus.* (1952)....$9.50*c*
Presents information regarding the useful plants of the world. It gives attention to formerly little-known species which have assumed increased importance and describes the use of plants cultivated for the greater production of such strategic materials as drugs—plants which were virtually unknown a decade ago.
CONTENTS—Introduction: The Importance and Nature of Plant Products. INDUSTRIAL PLANTS AND PLANT PRODUCTS: Fibers and Fiber Plants. Forest Products: Wood and Cork. Forest Resources. Tanning and Dye Materials. Rubber and Other Latex Products and Resins. Essential Oils. Fatty Oils and Waxes. Sugars, Starches, and Cellulose Products. DRUG PLANTS AND DRUGS: Medicinal Plants. Fumitories and Masticatories. FOOD PLANTS: The History and Nature of Food Plants. The Major Cereals. The Minor Cereals and Small Grains. Legumes and Nuts. Vegetables. Fruits of Temperate Regions. Tropical Fruits. FOOD ADJUNCTS: Spices and Other Flavoring Materials. Beverage Plants and Beverages. Appendixes: Systematic List of Species Discussed; Bibliography; List of Visual Materials.

Plant Anatomy

EAMES AND MacDANIELS—An Introduction to Plant Anatomy
By ARTHUR J. EAMES and LAURENCE H. MacDANIELS, Cornell University. *Pub. in Bot. Sc.* Second Edition.
427 *pp.*, 6 *x* 9, 196 *illus.* (1947)....$8.50*c*
Containing fundamental facts and aspects of plant anatomy, this text will be of value to students of plant anatomy and other fields of pure botany and also as a reference to plant pathologists, students of genetics, and horticulturists. The second edition contains additional material on cell-wall origin, development, and structure, meristems, phloem, leaf development and structure, abscission, and flower and fruit structure. Each chapter incorporates results of research and summaries of important theories and the evidence in support of these theories.
CONTENTS—Introductory. General Structure of the Plant Body—an Outline. The Cell. Meristems. Tissues and Tissue Systems. The Primary Body. The Origin and Development of the Secondary Body and Its Relation to the Primary Body. The Cambium. Secondary Xylem. Secondary Phloem. Periderm and Abscission. The Root. The Stem. The Leaf. The Flower—The Fruit—The Seed. Ecological Anatomy.

Botanical Society of America

BOTANICAL SOCIETY OF AMERICA—Fifty Years of Botany
Edited by WILLIAM CAMPBELL STEERE, New York Botanical Garden.
638 *pp.*, 6 *x* 9 (1958).....$10.50*c*
This Golden Jubilee Volume of the Botanical Society of America is a collection of 40 articles which cover a wide range of topics, showing the progress in many areas and sub-areas of the plant sciences. The articles are as nontechnical as possible, yet scientifically accurate and authentic.
CONTENTS—The Early History of the Botanical Society of America, by Oswald Tippo. Awards of Certificates of Merit at the Fiftieth Anniversary Meeting, by Bernard S. Meyer. Microbes—Man's Mighty Midgets, by Kenneth B. Raper. The Fight with the Fungi, or the Rusts and Rots That Rob Us, the Blasts and the Blights That Beset Us, by James G. Horsfall. Problems in Preventing Plant-Disease Epidemics, by E. C. Stakman. An Anatomist's View of Virus Diseases, by Katherine Esau. Research on Xylem and Phloem, Progress in Fifty Years, by Vernon I. Cheadle. Botany and Morphogenesis, by Edmund W. Sinnott. Cytology: The Study of the Cell, by Ralph E. Cleland. Induced Polyploidy, by O. J. Eigsti. Cytogenetics and Evolution of the Grass Family, by G. Ledyard Stebbins. Taxonomy of the Higher Plants, by Reed C. Rollins. Highlights of Botanical Exploration in the New World, by Bassett Maguire. Natural History, Statistics, and Applied Mathematics, by Edgar Anderson. Application of Some Phytosociological Techniques to Brazilian Rain Forest, by Stanley A. Cain, Gustavus M. de Oliveira Castro, J. Murca Pires, and Nilo Tomas da Silva. The Development of Association and Climax Concepts, Their Use in Interpretation of the Deciduous Forest, by E. Lucy Braun. Recent Evolution of Ecological Concepts in Relation to the Eastern Forests of North America, by R. H. Whittaker. Botanists and the Conservation of Natural Resources, by Paul B. Sears. Soil-plant Relationships and Plant Nutrition, by A. G. Norman. Physiological Aspects of Aging in Plants, by William J. Robbins. Growth and Growth Hormones in Plants, by Kenneth

Crafts. Horticulture Is a Great Green Carpet That Covers the Earth, by H. B. Tukey. Botany and Medicine, by H. W. Youngken, Jr. On the Popularization of Botany, by Donald Culross Peattie. Botanical History, by Andrew Denny Rodgers, III. The Role of Study of Algae in the Development of Botany, by Gilbert M. Smith. College Botany Could Come Alive, by Hiden T. Cox and John A. Behnke. The Odor of Botany, by Harry J. Fuller. Botany for Living, by Clarence J. Hylander. More Plants for Man, by W. H. Hodge. Botanical Aspects of the Paper-pulp and Tanning Industries in the United States, An Economic and Historical Survey, by Edmund H. Fulling. Botanic Gardens—What Role Today? An "Operation Bootstraps" Opportunity for Botanists, by George S. Avery, Jr. Arboreta and Botanical Gardens in the Field of Plant Sciences and Human Welfare, by R. J. Seibert. Golden Jubilee Symposium—Progress and Outstanding Achievements in Various Fields of Botany during the Past Fifty Years with Introduction, by James E. Canright. Progress and Outstanding Achievements in Phycology during the Past Fifty Years, by George F. Papenfuss. Mycology during the Past Fifty Years, by William H. Weston. Plant Taxonomy in an Age of Experiment, by Lincoln Constance. Fifty Years of Paleobotany, 1906–1956, by Theodor Just. Some Aspects of Progress in Plant Morphology during the Past Fifty Years, by Arthur J. Eames. Fifty Years of Plant Physiology in the U.S.A., by F. W. Went. Index.

Cytology

SHARP—Fundamentals of Cytology
By LESTER W. SHARP, formerly Cornell University. *Pub. in Bot. Sc.*
270 *pp.*, 6 *x* 9, 176 *illus.* (1943).....$7.50*c*
Deals mainly with the structural and genetic aspects of the subject and is a simple treatment especially adapted to the use of beginners in cytology and cytogenetics.
CONTENTS—The Position of Cytology in Biological Science. The Organism and the Cell. The Structural Components of Protoplasts. Protoplasm. Division of the Protoplast. The Cell Walls of Plants. The Chromosomes. Meiosis. Cytology of Reproduction in Animals. Cytology of Reproduction in Angiosperms. Cytology of Reproduction in Plants Other than Angiosperms. Cytology and Mendelian Heredity. Chromosomal Aberrations. Chromosome Numbers and Their Alteration. Cytological Aspects of Hybridity. The Role of the Cytoplasm in Development and Heredity. Cytology and Taxonomy.

Plant Embryology

MAHESHWARI—An Introduction to the Embryology of the Angiosperms
By P. MAHESHWARI, University of Delhi, India. *Pub. in Bot. Sc.*
453 *pp.*, 6 *x* 9, 216 *illus.* (1950)....$11.00*r*
An authoritative textbook and reference on plant embryology by a distinguished Indian botanist who has spent much time in this country. Since the angiosperms constitute approximately eighty-five per cent of the plant kingdom, this book is suitable for use in college courses entitled Plant Embryology. Only the lower forms—fungi, mosses, ferns, etc.—are omitted.
CONTENTS—Historical Sketch. The Microsporangium. The Male Gametophyte. Fertilization. The Endosperm. The Megasporangium. The Female Gametophyte. The Embryo. Apomixis. Polyembryony. Embryology in Relation to Taxonomy. Experimental Embryology. Theoretical Conclusions. Index.

Plant Morphology

EAMES—Morphology of the Angiosperms
By ARTHUR J. EAMES, Cornell University.
518 *pp.*, 6 *x* 9, 148 *illus.* (1961)....$13.50*s*
A composite of many scattered studies of the morphology of the angiosperms and their phylogeny. The text reviews much of the new factual material and many of the theories related to the subject. This is a comparative, emphasis on evolutionary modifications and phyletic implications. It is assumed that the reader has an elementary knowledge of botany.
CONTENTS—Preface. The Plant Body. The Inflorescence. The Flower. THE ANDROECIUM. The Stamen. Bibliographies for Androecium and Stamen, for Nectaries. POLLEN. Dehiscence. Pollination. The Male Gametophyte. Bibliographies for Pollen and Male Gametophyte—Dehiscence—Pollination. THE GYNOECIUM. The Carpel. Bibliography. The Ovule. ARCHESPORIUM. Embryo Sac. Endosperm. Bibliography. FERTILIZATION. The Embryo. Germination. The Embryo at Germination and Early Seedling Stages. Polyembryony. Anatomy of the Young Seedling. Two Major Types of Angiosperm Embryo. The Primitive Angiosperm Embryo. Bibliography. SEEDS. Fruits. Bibliography for the Seed—The Fruit. THE MORPHOLOGY OF SELECTED FAMILIES. Ranales. Dilleniales. Piperales. Verticillatae (Casuarinales). Helobiales. Liliales. Palmae. PHYLOGENY OF THE ANGIOSPERMS. Age of Angiosperms. Bibliography for Chapter 12. Bibliography of General References.

HAUPT—Plant Morphology
By ARTHUR W. HAUPT, formerly University of California, Los Angeles. *Pub. in Bot. Sc.*
464 *pp.*, 6 *x* 9, 341 *illus.* (1953).....$9.50*c*
A college text for the junior-senior course offered to botany majors. It deals with the principal groups of plants from the standpoint of their structure, reproduction, and development. The book presents a survey of the plant kingdom with emphasis upon relationships as revealed by basic similarity in body organization and life histories. An account is given of the general course of evolution that existing groups appear to have followed. The text interprets the structural and developmental complexities of the higher plants in terms of the simpler conditions prevailing among the lower plants. It shows the evolutionary tendencies seen within each group, and discusses the interrelationships of its members.
CONTENTS—Introduction. Thallophyta: Algae. Thallophyta: Fungi. Bryophyta. Pterophyta. Spermatophyta. Evolution of the Plant Kingdom. Selected References. Glossary. Index.

SINNOTT—Plant Morphogenesis
By EDMUND W. SINNOTT, formerly Yale University. *Pub. in Bot. Sc.*
550 *pp.*, 6 *x* 9, 217 *illus.* (1960)....$13.50*r*
This text describes the phenomena of morphogenesis in plants and treats the subject as a distinct field of biology. Here are assembled the major facts known about the origin and developmental stages in plants. The problems presented are discussed from the viewpoints of physiology and genetics, including the part played in plant development by light, water, temperature, various other physical factors, as well as chemical substances and genetic agents. The book surveys the most important contributions that have been made toward a solution of developmental problems in plants, and coordinates the various aspects of this theme into a lucid subject which touches closely on many other fields of biology.
CONTENTS—Preface. Introduction. GROWTH: Growth in General; The Cellular Basis of Growth; Meristems. THE PHENOMENA OF MORPHOGENESIS: Correlation; Polarity; Symmetry; Differentiation; Regeneration; Tissue Mixtures; Abnormal Growth. MORPHOGENETIC FACTORS: Introduction to Factors; Light; Water Temperature; Various Physical Factors; Chemical Factors in General; Growth Substance; Genetic Factors; Organization. Bibliography. Index.

SMITH—Cryptogamic Botany
By GILBERT M. SMITH, deceased. *Pub. in Bot. Sc.* Second Edition.
Volume I. Algae and Fungi.
546 *pp.*, 6 *x* 9, 311 *illus.* (1955)....$10.95*c*
Volume II. Bryophytes and the Pteridophytes.
[illegible] *pp.*, 6 *x* 9, 254 *illus.* (1955).....$9.95*c*

These volumes provide a sound and authoritative coverage of the morphology of all plants below the level of seed plants. A separate chapter is devoted to each phylum of plants. For each phylum there is a general discussion, followed by a detailed description of the structure and reproduction of a selected series of representatives. The introductory portion of each of the chapters has been entirely rewritten in these revised volumes. Descriptions of many of the representative genera have been revised in the light of new knowledge, and representatives with a wider geographical distribution have been substituted for several of those used in the first edition. There are 145 new or substitute illustrations.

CONTENTS—VOLUME I, ALGAE AND FUNGI: The Classification of Spore-Producing Plants. Chlorophyta. Euglenophyta. Pyrrophyta. Chrysophyta. Phaeophyta. Cyanophyta. Rhodophyta. Myxomycophyta. Eumycophyta—Introduction. Phycomycetae. Ascopycetae. Basidiomycetae. Deuteromycetae. Lichenes (Lichens). CONTENTS—VOLUME II, BRYOPHYTES AND PTERIDOPHYTES: Bryophytes and Pteriodphytes. Bryophyta—Introduction. Hepaticae. Anthoceratae. Musci. Pteridophytes—Introduction. Psilophyta. Lepidophyta. Calsmophyta. Pterophyta.

EAMES—Morphology of Vascular Plants
Lower Groups (Psilophytales to Filicales)
By ARTHUR J. EAMES, Cornell University. *Pub. in Bot. Sc.*
433 *pp.*, 6 *x* 9, 215 *illus.* (1936)....$10.00*c*

A text and reference covering the morphology and life histories of vascular plants. Emphasis is placed on a broad comparative study of the various groups with the development of a natural classification and of phylogenetic relationships as a goal.

CONTENTS—Lycopodiaceae. Club Mosses. Selaginellaceae. Small Club Mosses. Isoetaceae. Quillworts. Psilotaceae. Equisetaceae. Horsetails. Filicineae. Ferns—Ophioglossaceae. Adder's Tongue. Ferns. Maratiaceae. Marattiaceous Ferns. Filicales. Leptosporangiate Ferns. Osmundaceae—Gleicheniaceae—Schizaeaceae. Marsileaceae. Water Ferns. Humenophyllaceae. Filmy Ferns—Salviniaceae. Water Ferns. Paleobotany and the Fossil Record—Psilophytales. Lepidodendrales. Calamitales—Hyeniales—Sphenophyllales—Coenopteridales. The Plant Body—Alternation of Generations—Classification of Vascular Plants.

Plant Physiology

CURTIS AND CLARK—An Introduction to Plant Physiology
By OTIS F. CURTIS, and DANIEL G. CLARK, Cornell University. *Pub. in Bot. Sc.*
752 *pp.*, 6 *x* 9, 139 *illus.* (1950)....$11.00*c*

Develops the basic principles of plant physiology and the bearing of these principles on the behavior of plants under natural or controlled conditions.

CONTENTS—Introduction. Foods and Photosynthesis. Diffusion and Osmosis. Surface Phenomena; Colloids, Absorption, and Imbibition. Water Absorption. Water Conduction. Transpiration; Rates, Measurements, and Factors. The Significance of Transpiration. Water Contents. Water Distribution. Death from Desiccation, and Transpiration Ratio. Frost Resistance and Death by Freezing. Injury at High Temperatures and Factors Affecting Plant Temperatures. Permeability, Accumulation, and Antagonism. Mineral Nutrition. Nitrogen Relations. Translocation of Solutes. Enzymes and Digestion. Respiration and Fermentation. Viability, Dormancy, and Rest in Seeds and Other Plant Parts. The Role of Organic Accessory Substances in Plant Growth. Conditions Influencing Flowering and Fruiting as Contrasted with Vegetative Growth.

KRAMER AND KOZLOWSKI—Physiology of Trees
By PAUL J. KRAMER, National Science Foundation, and THEODORE T. KOZLOWSKI, University of Wisconsin. *Pub. in Bot. Sc.*
642 *pp.*, 6 *x* 9, 199 *illus.* (1960)....$13.00*c*

Written as a textbook or reference volume for foresters, plant physiologists, horticulturists, botanists, arborists, teachers, students, and investigators. This is the only modern organized compilation of what is known about the physiology of tree growth. The authors treat the structure and processes involved in tree growth, such as photosynthesis, respiration, nitrogen metabolism, translocation, accumulation, mineral nutrition, sexual and vegetative reproduction, seed germination, and water relations. Two chapters are devoted to internal and environmental factors affecting tree growth.

CONTENTS—Introduction. Growth and Structure. Photosynthesis. Carbohydrates. Nitrogen Relations. Fats, Oils, Terpenes, and Related Substances. Assimilation and Respiration. Translocation and Accumulation. Mineral Nutrition and Salt Absorption. Water Relations and Transpiration. Absorption of Water and Ascent of Sap. Internal Water Relations. Reproduction. Physiology of Seeds and Seed Germination. Internal Factors Affecting Growth. Environmental Factors Affecting Growth.

MILLER—Plant Physiology
With Reference to the Green Plant
By EDWIN C. MILLER. *Pub. in Bot. Sc.* Second Edition.
1201 *pp.*, 6 *x* 9, *illus.* (1938).....$18.50*c*

Designed both as a text for advanced students and as a reference book for investigators, this well-known book gives a complete survey of the field of plant physiology, with reference to the green plant. One of the features of the text is the 6,000 references covering every aspect of the subject.

CONTENTS—The Plant Cell; Solutions and Membranes in Relation to the Plant Cell; The Roots of Plants; The Intake of Water by Plants; The Intake of Solutes by the Plant; The Elements Absorbed by the Plant; The Loss of Water from Plants; The Formation of Carbohydrates by the Green Plant; The Loss of Water from Plants; The Formation of Carbohydrates by the Green Plant; The Nitrogen Metabolism of the Green Plant; The Fat Metabolism of the Green Plant; The Process of Digestion in the Green Plant; The Translocation of Materials in Plants; The Process of Respiration in Plants; The Process of Growth in Plants.

MILLER—Within the Living Plant
By ERSTON V. MILLER, University of Pittsburgh.
325 *pp.*, 127 *illus.* (1953).....$6.95*c*

Presents the fundamental principles of plant physiology by use of everyday examples and develops an understanding of the subject with applications useful in daily living. This book can be readily understood by students with a minimum knowledge of botany and chemistry, since *it begins at the beginning* and gradually proceeds to the more intricate phases of the subject.

CONTENTS—Foreword; Plant Physiology in Everyday Life; The Plant Cell; Solutions, Acids, pH; Interfacial Phenomena and Colloids; Diffusion and Osmosis; Imbibition; Permeability; Loss of Water by Plants; Soils; Plant Pigments; Photosynthesis, Carbohydrates; Lipids (Fats and Related Compounds); Nitrogen; Mineral Nutrition; Enzymes; Translocation; Respiration; Growth and Development; Growth-modifying Substances; Radiant Energy and Plant Growth; Photoperiodism; Reproduction in Plants; Dormancy; Tropisms or Tropic Movements; Effects of Low Temperatures on Plants; The Role of Vitamins in Plants: The Plant as a Whole; Epilogue; General References; Special References; Index.

KRAMER—Plant and Soil Water Relationships
By PAUL J. KRAMER, National Science Foundation. *Pub. in Bot. Sc.*
340 *pp.*, 6 *x* 9, 50 *illus.* (1949).....$8.50*c*

An advanced plant physiology text of interest to students in botany, agriculture, and forestry departments. The author, a leading authority in his field, presents an integrated discussion of

the various factors affecting water absorption by plants. These factors include: availability of soil moisture, development of efficient root systems, the nature of the absorption process, the relation between the absorption of water and that of minerals, and the relation between water absorption and other plant processes.

CONTENTS—Historical Introduction. Soil-moisture Relations. Factors Affecting the Supply of Soil Moisture. Measurement and Control of Soil Moisture. Structure and Growth of Roots. Factors Affecting Development of Root Systems. Root and Stem Pressures and Exudation Phenomena. Processes Concerned in Water Absorption. Factors Affecting the Absorption of Water. The Absorption of Solutes. Absorption Deficits and Their Effects on Plants.

Plant Geography

POLUNIN—Introduction to Plant Geography

By NICHOLAS POLUNIN, New College, Oxford.

640 *pp.*, 8¾ *x* 5⅞, *illus.* (1960)...$10.50*cf*

Deals with the plant cover of the world—with its composition, its local productivity, and especially its distribution. The author describes and interprets the manifestations of plant geography, paying special attention to the differences and similarities existing between the various floras and vegetations of the world.

CONTENTS—What Is Plant Geography? The Various Groups of Plants and How They Live. Physiological Reactions, "Adaptations," and Life-forms. Dispersal and Migration: Aids and Barriers. Evolutionary Development and Past History. Foundations of Modern Distributions. Types and Areas of Natural Distributions. Modification and Distributions of Crops (and Weeds). Vital Importance to Mankind. Environmental Factors. Main Habitats, Successions, and Climaxes. Vegetational Types of Temperate and Adjacent Lands. Vegetational Types of Polar Lands and High Altitudes. Vegetational Types of Tropical and Adjacent Lands. Vegetational Types of Fresh and Inland Saline Waters. Vegetational Types of Seas. Landscapes and Vegetation. Plant Adjustments and Applications. Index.

Plant Taxonomy

POOL—Flowers and Flowering Plants

By RAYMOND J. POOL, University of Nebraska. *Pub. in Bot. Sc.* Second Edition.

428 *pp.*, 6 *x* 9, *illus.* (1941).....$9.50*c*

This is an introduction to the nature and work of flowers and the classification of flowering plants.

CONTENTS—Structure of the Flower. The Work of the Flower. Fruits and Seeds. How Flowering Plants Travel. Forms and Relationships in Flowers. Floral Diagrams and Formulae. Flower Clusters. Vegetative Characteristics of Flowering Plants. The Classification of Plants. Principles of Classification of Flowering Plants. Selected Orders and Families of Dicotyledons. The Mallows and Geraniums. The Teas, Poppies, and Pinks. The Primroses, Heathers, and Ebonies. The Gentians, Phloxes, Snapdragons, and Mints. Buttercups to Asters. The Myrtles, Starflowers, and Cactuses. The Bittersweets, Maples, and Parsleys. The Madders, Bluebells, and Asters. Selected Orders and Families of Monocotyledons. The Lillies, Palms, and Aroids. The Grasses and Sedges. The Water Weeds, Irises, and Orchids. A Bit of Early History. From Linnaeus to Engler and Bessey. Collecting and Preparing Specimens. Reference Books, Monographs, Manuals, and Floras.

SWINGLE—A Textbook of Systematic Botany

By DEANE B. SWINGLE. *Pub. in Bot. Sc.* Third Edition.

343 *pp.*, 5¼ *x* 8¼, 106 *illus.* (1946)..$7.95*c*

Approaches the subject by way of genetics, ecology, cytology, and geography. There is a section on the Mechanism of Evolution, the Identification of Flowering Plants, and floral formulae are added to the description of each family. A discussion of the newer species concept and the experimental method in taxonomy is also included.

CONTENTS—Evolution in Relation to Taxonomy. Methods Used in the Identification of Flowering Plants. The Preparation of Herbaria. The Terminology of Systematic Botany. General Features of Spermatophyta. Families of Gymnosperms. Families of Dicotyledons. Families of Monocotyledons. Nomenclature. Principles of Taxonomy. Systems of Taxonomy. The Literature of Systematic Botany.

Algae

SMITH—The Fresh-Water Algae of the United States

By GILBERT M. SMITH, deceased. *Pub. in Bot. Sc.* Second Edition.

719 *pp.*, 6 *x* 9, 559 *illus.* (1950)....$14.00*c*

A unique standard reference and advanced text for students of botany. Its purpose is to enable the student to identify the fresh-water algae of this country and to summarize the morphology and life histories of these algae. In the second edition, over a hundred genera, not known to occur in the United States at the time the first edition was published, have been added. The book has been expanded to include the choras, cryptomonads, and chloromonads. For each genus, references are given to descriptions of the species found in the United States. Each of the new genera is illustrated.

CONTENTS—Preface. Nature, Evolution, and Classification of the Algae. The Distribution and Occurrence of Fresh-water Algae. Collection. Preservation, and Methods of Studying the Fresh-water Algae. Chlorophyta. Englenophyta, Chrysophyta. Phaeophyta. Pyrrophyta. Cyanophyta. Rhodophyta. Groups of Uncertain Systematic Position. Bibliography. Comprehensive Key. Index.

Fungi

LILLY AND BARNETT—Physiology of the Fungi

By VIRGIL G. LILLY and HORACE L. BARNETT, West Virginia University. *Pub. in Bot. Sc.*

464 *pp.*, 6 *x* 9, 91 *illus.* (1951).....$10.50*c*

This is the first book-length treatment of the subject, designed primarily as a text for advanced students, but of great interest also to all botanists and biological chemists. It is a discussion of living fungi, their life processes and the factors which influence these activities. Emphasis is placed on *the fungus*, rather than on the general activities of the fungi as a group. Particular emphasis is placed on laboratory investigations.

CONTENTS—Preface. Introduction. Culture Media. Growth. Enzymes and Enzyme Action. Essential Metallic Elements. The Essential Nonmetallic Elements Other than Carbon. Carbon Sources and Carbon Utilization. Hydrogen-ion Concentration. Vitamins and Growth Factors. Fungi as Test Organisms. Metabolite Antagonists. The Action of Fungicides. Metabolic Products. Factors Influencing Sporulation of Fungi. Spore Discharge and Dissemination. Spore Germination. The Physiology of Parasitism and Resistance. Physiological Variation and Inheritance of Physiological Characters. Suggested Laboratory Exercises. Index.

Paleobotany

ARNOLD—An Introduction to Paleobotany

By CHESTER A. ARNOLD, University of Michigan.

427 *pp.*, 6 *x* 9, 187 *illus.* (1947)....$9.95*c*

Emphasis is placed upon those fossil plants found in the New World, and in many instances North American plants have been used for descriptive and illustrative purposes in place of the more familiar and oft-figured Old

World forms. However, those discoveries which have come to be looked upon as landmarks in the history of paleobotany have not been neglected nor their importance minimized. In the introduction a few basic geological principles are laid down, and this is followed by a discussion of plant classification.

CONTENTS—Introduction. How Plants Become Fossils. The Nonvascular Plants. The Early Vascular Plants. The Ancient Lycopods. Ancient Scouring Rushes and Their Relatives. Paleozoic Fernlike Foliage. The Ancient Ferns. The Pteridosperms. Cycadophytes and Ginkgos. The Cordaitales. The Ancient Conifers. Ancient Flowering Plants. The Sequence of the Plant World in Geologic Time. Fossil Plants and Environment. Paleobotanical Systematics.

Plant Pathology

CHESTER—Nature and Prevention of Plant Diseases

By K. STARR CHESTER, Alton Box Board Co., Alton, Illinois. Second Edition.

525 *pp.*, 224 *illus.* (1947).....$8.95*c*

Presents a thorough study of plant diseases oriented to the needs of agriculture. Extensive revisions of seed treatment, and spraying and dusting of fruits and vegetables are included. The latest developments in control practices, including the slurry, pelleting, and vapor-heat methods of seed treatment, new non-metallic organic fungicides, innovations in methods of spraying and dusting are considered.

CONTENTS—Significance of Plant Disease in Agriculture; Types of Plant Disease, Fungi; Rusts; Smuts; Fleshy Fungi, Mycorrhizae; Ascomycetes; Imperfect Fungi; Phycomycetes and Related Fungi; Damping-off and Related Troubles; Bacterial Diseases; Diseases Caused by Viruses; Parasitic Seed Plants and Algae, Epiphytes; Nematodes or Eelworms; Physiogenic Diseases; Methods of Studying Plant Diseases; Environment and Parasitic Disease; Etiology and Epiphytology of Disease. Control of Plant Diseases: by Regulation, by Inducing Resistance, by Cultural Methods.

WALKER—Plant Pathology

By JOHN C. WALKER, University of Wisconsin. *Pub. in Agr. Sc.* Second Edition.

707 *pp.*, 6 *x* 9, 194 *illus.* (1957)....$11.50*c*

Planned as a basic introduction to the field and written on the premise that a student of agriculture or botany entering this and allied sciences must gain a foundation by thorough acquaintance with a relatively few type cases. Once these are mastered, the use of technical papers becomes more satisfactory. Since many students come into the field without a previous course in the fungi, the causal organism of each fungus disease is treated in considerable detail.

CONTENTS—Introduction. History of Plant Pathology. Nonparasitic Diseases. Bacterial Diseases. Diseases Incited by Plasmodiophorales. Diseases Incited by Phycomycetes. Diseases Incited by Fungi Imperfecti. Diseases Incited by Asomycetes. Diseases Incited by Basidiomycetes. Diseases Incited by Phanerogamic Parasites. Diseases Incited by Nematodes. Virus Diseases. Relation of Environment to Disease Development. Host-parasite Interactions. Disease Control through Exclusion and Eradication. Disease Control through Protection. Disease Control through Host Resistance. Index.

ANDERSON—Diseases of Fruit Crops

By HARRY WARREN ANDERSON, formerly University of Illinois. *Pub. in Agr. Sc.*

501 *pp.*, 6 *x* 9 (1956).....$11.00*c*

Written for research workers, teachers, and practicing horticulturists, this book provides detailed information on the diseases of cultivated fruit crops in the temperate zone, both in America and in foreign countries, with the exception of citrus and subtropical fruits. The diseases of each crop are treated in order of their importance. For each disease the history, geographic distribution, symptoms, causal organism, hosts, morphology of the pathogen, disease cycle, and control, followed by a list of selected references is given.

CONTENTS—Preface. Introduction. Diseases of Pome Fruits. Diseases of Drupe or Stone Fruits. Diseases of Brambles. Diseases of Grapes. Diseases of Strawberries. Diseases of Gooseberries and Currants. Diseases of the Cranberry. Diseases of the Blueberry. Index.

DICKSON—Diseases of Field Crops

By JAMES G. DICKSON, University of Wisconsin. *Pub. in Agr. Sc.* Second Edition.

517 *pp.*, 6 *x* 9, 102 *illus.* (1956).....$10.00*c*

Brings together current knowledge and references on the diseases of this group of agricultural plants on a world basis. Diseases are arranged under each crop plant on the basis of primary causal factor: (1) nonparasitic, or diseases resulting chiefly from unfavorable environment; (2) diseases incited by viruses or infectious agents transmitted mechanically or by insects; (3) bacterial pathogens; and (4) fungal pathogens.

CONTENTS—Preface. GENERAL INTRODUCTION. Introduction. Physiological Anatomy of Plant Groups in Relation to Disease. DISEASES OF CEREALS AND GRASSES. Barley Disease. Corn Diseases. Millet Diseases. Oat Diseases. Rice Diseases. Rye Diseases. Sorghums, Sudan Grass, and Johnson Grass Diseases. Sugarcane Diseases. Wheat Diseases. Grass Diseases. DISEASES OF LEGUMES. Alfalfa and Sweetclover Diseases. Clover Diseases. Soybean Diseases. Peanut Diseases. Diseases of Other Legume Crops. DISEASES OF FIBER AND OTHER FIELD CROPS. Cotton Diseases. Flax Diseases. Tobacco Diseases. Appendix A. Diseases of Field Crops Arranged by Causal Factor (Suggested for a Three-hour Course). Appendix B. Bacteria and Fungi Parasitic on Field Crops Arranged under Orders and Families with More Common Suspects. Index.

WALKER—Diseases of Vegetable Crops

By JOHN C. WALKER, University of Wisconsin. *Pub. in Agr. Sc.*

529 *pp.*, 6 *x* 9, 117 *illus.* (1952).....$10.50*c*

A text for college courses in horticulture and plant pathology and a reference for the extension specialist, county agent, produce merchant, seedsman, and vegetable grower. The book covers completely the known facts as to the diseases of common vegetables. Under each disease are discussed symptoms; the causal agents; the cycle of development; and methods of control. A list of pertinent references follows each disease.

CONTENTS—Diseases of Asparagus; Diseases of Bean and Lima Bean; Diseases of Beet and Chard; Diseases of Carrot and Parsnip; Diseases of Celery and Parsley; Diseases of Crucifers; Diseases of Cucurbits; Diseases of Lettuce, Endive, Escarole, Chicory, Salsify, and Globe Artichoke; Diseases of Onion, Garlic, Leek, Chive, and Shallot; Diseases of Pea; Diseases of Pepper and Eggplant; Diseases of Potato; Diseases of Rhubarb; Diseases of Spinach; Diseases of Sweet Potato; Diseases of Tomato; Index.

BOYCE—Forest Pathology

By JOHN SHAW BOYCE, formerly Yale University. *Amer. For. Series.* Third Edition.

572 *pp.*, 6 *x* 9, 216 *illus.* (1961)....$12.50*c*

Now substantially revised and updated, the text continues its trend of conciseness and accuracy by featuring: a natural arrangement, according to the parts of the tree affected, which simplifies the task of finding information for the non-specialist and eliminates repetition; a great amount of information in a minimum number of pages; and extensive and exact documentation of numerous diseases. The text again concentrates exclusively on pathology in forest practice.

CONTENTS—1. Introduction. 2. Disease. 3. The Fungi. 4. Noninfectious Diseases. 5. Seedling Diseases. 6. Root Diseases. 7. Foliage Diseases of Hardwoods. 8. Foliage Diseases of Conifers. 9. Stem Diseases: Rusts of Conifers. 10. Stem Diseases: Rusts of Conifers (Continued). 11. Stem Diseases: Cankers of Conifers. 12. Stem Diseases: Cankers of Hardwoods. 13. Stem Diseases: Galls, Witches'-brooms, and Fasciations. 14. Stem Diseases: Diebacks and Wilts. 15. Stem Diseases Caused by Mistletoes, Dwarf Mistletoes, Lichens, and Climbers. 16. Stem Diseases: Decay. 17. The Rots. 18. Deterioration of Dead Timber. 19. Deterioration of Forest Products: Decay. 20. Deterioration of Forest Products: Stains. 21. Principles of Forest-disease Control. APPENDIX A. Fungicides. APPENDIX B. List of Common Names of Plants Used with Scientific Equivalents.

LEACH—Insect Transmission of Plant Diseases

By JULIAN GILBERT LEACH, West Virginia University. *Pub. in Agr. Sc.*

615 *pp.*, 6 *x* 9, *illus.* (1940).....$11.75*r*

Brings together the accumulated facts of insect transmission of plant diseases, considering the phenomena from the standpoint of their broad biological significance as well as from the standpoint of practical plant pathology.

CONTENTS—Introduction; The Interrelationships of Plants and Insects; Symbiosis between Insects and Microorganisms and Its Significance in Plant Pathology; The Relation of Insects to the Spread and Development of Plant Diseases; Plant Diseases Caused by Toxicogenic Insects; Insects and Bacterial Diseases; Insects and Fungus Diseases; Insects and Virus Diseases; Insects and Phytopathogenic Protozoa; Mites, Nematodes, and Other Small Animals as Vectors of Plant Diseases; The Anatomy and Physiology of Plants in Relation to Infection and Insect Vectors; The Anatomy and Physiology of Insects in Relation to the Transmission of Plant Diseases; The Inocula of Plant Pathogens in Relation to Insect Transmission; The Feeding and Breeding Habits of Insects in Relation to the Transmission of Plant Diseases; Insect Transmission of Animal Diseases Compared with Insect Transmission of Plant Diseases; Methods Useful in the Study of Insect Transmission of Plant Diseases.

Forestry and Wood Technology

THE AMERICAN FORESTRY SERIES

(Amer. For. Series)

Henry J. Vaux, Consulting Editor
University of California

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ALLEN AND SHARPE—An Introduction to American Forestry

By SHIRLEY WALTER ALLEN, formerly University of Michigan; and GRANT WILLIAM SHARPE, University of Michigan. *Amer. For. Series.* Third Edition.

466 *pp.*, 6 *x* 9, 126 *illus.* (1960).....$8.95*c*

A modern treatment of the practice of forestry; includes the business of managing forests for their material products and their services to mankind. It describes policies, procedures and techniques in American forest regions, stressing the importance of forest resources and their uses to the economy and to the culture of our country.

CONTENTS—Preface. Man and the Forest. Building the Country with Forests Where Our Forests Are and What They Produce. What a Forest Is. What Forestry Is. Forestry That Starts with a Forest. Forestry That Starts with Bare Ground. Defending the Forest from Fire. Defending the Forest from Attacks of Insects and Other Animals. Defending the Forest from Fungus Pests and from the Elements. Measuring the Forest. Harvesting the Forest Crop. Making Forest Products Adaptable and Durable. Beneficial Influences and Services from the Forest. Forestry as a Public Policy in the United States (I). Forestry as a Public Policy in the United States (II). How the Federal Government Practices Forestry. How the States and Communities Practice Forestry. The Practice of Forestry on Private Lands. Education in Forestry—the Profession of Forestry. Forestry and National Planning. Appendix. Index.

SHIRLEY—Forestry and Its Career Opportunities, 2nd Ed.

By HARDY L. SHIRLEY, Syracuse Univ. *Amer. For. Series.*

In Press

Presents a broad picture of forestry in relation to its historic development and its place in national and world economy. The book is written to help beginning students understand the many facets of forestry; it should also prove helpful to vocational-guidance counselors, science teachers and layman interested in up-to-date information on forestry. This new edition has been revised and rewritten to include new material and methods, and to give it broader and more significant appeal to forestry students.

BAKER—Principles of Silviculture

By FREDERICK S. BAKER, University of California. *Amer. For. Series.*

414 *pp.*, 6 *x* 9, 127 *illus.* (1950).....$8.95*c*

A straightforward exposition of the fundamental biological facts and principles that

underlie the management of forests. Numerous concrete illustrations of the various points are included, involving the use of a large number of graphs, tables, and other numerical data. CONTENTS—Introduction. Forests in General: Their Form and Composition. Ecological Classifications of Forests. Classification by Site Quality and Density. Tolerance and Crown Classes. Water Supply of the Forest. Utilization of Water by the Forest. The Photosynthetic Process. Nitrogen and Mineral Nutrition (Forest Soils). Production of Seed. Dissemination of Seed. Overwintering Losses of Seed. Germination of Seeds. Establishment: Mortality of Seedlings. Growth of Trees in General. Height Growth of Trees. Growth of Trees in Diameter. Growth of Trees in Volume. Growth of Stands. Biology of the Growth of Stands. Index.

BRUCE AND SCHUMACHER—Forest Mensuration

By DONALD BRUCE, Consulting Forester, Portland, Oregon and FRANCIS X. SCHUMACHER, Duke University. *Amer. For. Series.* Third Edition.

467 *pp.*, 6 *x* 9, 114 *illus.* (1950).....$8.95*c*

Follows the fundamental concept that the best way to teach forest mensuration is to teach the student how to use its tools. Many of these tools were relatively new when this book was first written; nearly all of them have stood the test of time. In this edition all the common problems of mensuration are now illustrated by modern procedures.

CONTENTS—DIRECT MEASUREMENT. Introduction. Measurement of Diameter. Measurement of Height. Measurement of Volume. Measurement of Age. DIRECT ESTIMATE BY SAMPLING. Averages. Measure of Dispersion and the Normal Curve of Error. The Standard Error. Applications of the Normal Curve. Sampling. INDIRECT ESTIMATE BASED ON ONE OR MORE INDEPENDENT VARIABLES. The Graphic Method of Rectangular Coordinates. Effectiveness of Free-hand Curves in Two Variables. The Board Foot and the Log Rule. Estimation by the Method of Least Squares. The Transformation of Curves into Straight Lines. Estimation by Means of Two Independent Variables. Least Squares with Two Independent Variables, with Particular Reference to Tree-volume Equations. The Alinement Chart. Base Alinement. Charts as First Approximations and Their Adjustment to Fit Empirical Data. Empirical Alinement Charts with One Curved Axis. Timber Cruising. On the Choice of Variables. Estimates Based on Four Variables: Taper Tables. PREDICTION OF GROWTH. Growth of Even-aged Stands. Growth of All-aged Stands. Appendix.

CHAPMAN AND MEYER—Forest Mensuration

By HERMAN H. CHAPMAN, and WALTER H. MEYER, Yale School of Forestry. *Amer. For. Series.*

522 *pp.*, 6 *x* 9, 94 *illus.* (1949).....$8.95*c*

The economic approach is employed dealing first with uses and products thus giving the basis for all other steps in mensuration.

CONTENTS—Elements of Forest Mensuration. Elementary Computations. Cord or Stacked Measure. Cubic Volume of Logs. The Measurement of Board Feet in the Log. Log Scaling. Construction of Log Rules. Piece Products. Measurement. Determination of Volume of Felled Trees for the Construction of Volume Tables. Local Tree Volume Tables. Construction. Limitations. The Construction of Standard Volume Tables for Cubic Feet. The Construction of Alinement Charts for Standard Volume Tables for Cubic Feet. The Construction of Standard Volume Tables for Board Feet. The Construction and Application of Taper Tables. The Measurement of Diameters of Standing Trees. The Measurement of Heights of Standing Trees. The Boundary Survey and Determination of Total Area. Timber Estimating for Cubic and Cord Measure. Timber Estimating for Board Feet by the Use of Log Rules. Timber Estimating by Use of Volume Tables. Measurement of Piece Products in the Tree Fundamental Statistical Techniques. Influences Affecting the Growth of Trees. The Age of Trees and Stands. The Growth of Trees and Stands. The Growth of Trees in Total Height Based on Age. The Growth of Trees in Dimensions and Form. Normal Yield Tables for Even-ages Stands and Their Construction. Prediction of the Periodic Annual Growth of "Average" Even-aged Stands by Use of Normal Yield Tables. Periodic and Current Growth in Diameter Based on Stand Tables. Predicting the Periodic Annual Growth of Stands by the Stand Table Method. Growth Percentage. Sample Plots. The Forest Survey or Inventory.

CHAPMAN AND MEYER—Forest Valuation

By HERMAN H. CHAPMAN and WALTER H. MEYER. *Amer. For. Series.*

490 *pp.*, 6 *x* 9, 22 *illus.* (1947).....$8.95*c*

Presents the applications of general economic principles to forest economics and valuation. The topics of costs, returns, and profits from timber crops are discussed together with related information on forest taxation, fire insurance, damages, stumpage appraisal, grade composition, and value of standing timber.

CONTENTS—Some Basic Principles of Economics Which Control Forestry Enterprises. Private Enterprise: The Business Unit: Capital. The Sources and Origin of Economic Values. Market Values of Forest Property. The Law of Diminishing Returns and the Marginal Tree. The Evaluation of Services and Benefits. Compound Interest and Discount. The Evaluation, by Appraisals, of Real Property Producing Annual Income: Sustained Yield Management. Methods of Appraisal of the Present Worth of Forest Property Producing Periodic but Not Annual Income. Costs of Production versus Profits in Forest Enterprises: The Role of Compound Interest. Rates Earned and the Profit Margin. Forest Rent, Soil "Rent," and the Rotation. Taxation of Forest Property. The Appraisal of Damages. Forest Fire Insurance. Methods of Appraisal of Stumpage Values. Application of Methods of Stumpage Appraisal. Determination and Application of Conversion Returns. The Appraisal of Forest Property to Be Purchased for Future Operation. Appendix. Index.

HARLOW AND HARRAR—Textbook of Dendrology

By WILLIAM M. HARLOW, State University of New York College of Forestry and E. S. HARRAR, Duke University. *Amer. For. Series.* Fourth Edition.

561 *pp.*, 6 *x* 9, 300 *illus.* (1958)....$10.50*c*

Introduces the forestry student to the important timber producing genera and species of North America. More than 800 separate photographs of leaves, flowers, fruit, seeds, twigs, buds, and bark are reproduced in the halftone illustrations which are an important feature of the book. Also included are data relating to distribution, silvics and silviculture of more than 150 important North American trees.

CONTENTS—Preface. Introduction. Classification. Nomenclature. Identification. Variation. Descriptions of Species. GYMNOSPERMS. Cycadales, Ginkgoales, Gnetales. Coniferales. ANGIOSPERMS. The Plant Families. I. Amentiferae. II. Floriferae. A. Apetalae. B. Polypetalae. C. Sympetalae. Glossary. State Trees of the United States. Derivations of Some Scientific Names. Selected References. Index.

WACKERMAN—Harvesting Timber Crops

By A. E. WACKERMAN, Duke University. *Amer. For. Series.*

437 *pp.*, 6 *x* 9, 193 *illus.* (1949).....$9.50*c*

Covers all phases of timber harvesting, from preliminary considerations involved in planning and preparing for the actual harvesting steps, to cost controls and records. Describes timber harvesting as an integral part of forestry, rather than as an independent procedure.

CONTENTS—Preface. Introduction: A Tribute to American Loggers. Part I: Considerations Preliminary to Actual Harvesting. Timber Crops—the Goal of Forestry. Development of Forest Industries in America. The Origins of Modern Timber-harvesting Methods. Planning the Timber Harvest. Woods Labor. Part II: Preparation of Trees for Removal from the Forest. Selection of Trees to Cut. The Felling Operation. Bucking Felled Trees. Hewing, Riving, and Peeling. Tools Used in Felling, Bucking, and Processing Trees. Part III: Movement of Products from the Forest.

Bunching Products in the Forest. Skidding Forest Products. Loading Forest Products. Transportation of Products from the Forest. Part IV: Organization and Control of Harvesting Operations. Measurement of Forest Products. Organization of Harvesting Operations. Costs and Records. Regional Harvesting Practices. References. Index.

Economics

DUERR—Fundamentals of Forestry Economics
By WILLIAM A. DUERR, State University of New York. College of Forestry. *Amer. For. Series.*
579 *pp.*, 6 *x* 9 (1960).....$10.50*c*
A realistic, practical treatment of all the ways in which business and economic factors affect forestry and the forest-products industries. This book was written to help the forester become a capable planner and decision-maker in forest management or industry, as well as, to help him become an intelligent witness to events around him—to understand what people do with respect to forests, forest goods and services, and *why*. The emphasis is on principles; actual cases, selected widely from American forestry are used.
CONTENTS—Preface. INTRODUCTION. The Subject of Forestry Economics. Economy and Forest Economy. Resources of the Forest Economy. Society and the Individual. THE FIRM'S SUPPLY OF FOREST PRODUCTS. Marginal Approach to the Firm's Objectives. Labor Production Functions. Combining Multiple Labor Inputs. Capital and Interest. Best Combination of Forest Capital. Interest Rate and Conservation. Land Use. Multiple-product Management. Supply of Processed Products. Supply of Standing Timber. Management Planning for the Firm. Methods of Economic Planning. THE MARKET FOR FOREST PRODUCTS. Demand for Forest Products. Price and Quantity Determination. Changes in Price and Quantity. Marketing and Its Functions. Marketing Agencies and Their Practices. Geography of Marketing. Appraisal in Forestry. INSTITUTIONS OF THE FOREST ECONOMY. Centers of Influence in the Forest Economy. The Tenure Institution. Forestry and the General Property Tax. Special Property Taxes and Taxes on Output. Credit and Insurance. OPERATION AND PLANNING OF THE FOREST ECONOMY. Forest Economy of the World. Social Planning for the Forest Economy. Planning Public Forestry Programs. Area Planning for Forestry. Economic Problems of Forestry.

Forest Management and Policy

BROCKMAN—Recreational Use of Wild Lands
By C. FRANK BROCKMAN, University of Washington. *Amer. For. Series.*
346 *pp.*, 6 *x* 9, 96 *illus.* (1959).....$9.50*c*
Presents a broad, basic outline of the background, importance, values and fundamental requirements of the recreational management of wild lands. The author notes some of the major reasons for the importance of recreation in modern life and gives a historical outline of the development of the philosophy of current recreational land use. The relationship of various types of public and private lands to recreational needs is indicated; the more important agencies administering wild lands of varied recreational values are emphasized. Fundamental considerations in the administration and management of recreational lands are discussed and basic factors in the design and operation of recreational facilities and services are included.
CONTENTS—The Importance of Recreation. Relationship of the Outdoors to Recreational Needs. Development of Recreational Interest in the Outdoors. Recreation in State Parks of the United States. Outdoor Recreation in National Park Service Areas. The National Forests as Outdoor Recreational Areas. Economic Value of Recreational Lands. Administration and Management of Recreational Lands. Important Outdoor Recreational Facilities and Services. Principal Wild Land Recreational Areas in Other Parts of the World.

DANA—Forest and Range Policy
Its Development in the United States
By SAMUEL T. DANA, formerly Dean, University of Michigan. *Amer. For. Series.*
455 *pp.*, 6 *x* 9, *illus.* (1959).....$8.95*c*
Describes the development of forest and range policy in the United States from earliest colonial times through 1954. Although the treatment is primarily chronological, the developments relating to a particular subject are discussed together within the different periods. Special attention is paid to the forces that have been instrumental in controlling the evolution of policy, and to the legislation which has been the means of expressing policy.
CONTENTS—Preface. Colonists, Kings, and Forests. Acquisition and Disposal of the Public Domain. Exploitation of Timber and Forage. Forestry in the Offing. Forest Reserves Arrive Prelude to Progress. Forestry in Practice and Politics. New Approaches. Controversy and Cooperation. Conservation under the New Deal. Forestry Comes of Age. Summary and Analysis. Appendix. Survey of Federal Policy on Wildlife, Soil, Water, and Minerals. Appendix.

DAVIS—American Forest Management
By KENNETH P. DAVIS, University of Michigan. *Amer. For. Series.*
482 *pp.*, 6 *x* 9, 26 *illus.* (1954).....$8.95*c*
Combines the fundamentals of forest management and the principles and methods of valuation. It attempts to cut through the formalism which has surrounded management methods and techniques for the past several years and encourages people to think with balance and directness about management problems.
CONTENTS—FOUNDATIONS OF MANAGEMENT. Nature, Purpose and Scope of Forest Measurement. The Forest Management Situation in the United States. Site, Stocking and Spacing. Forest Yield and Yield Tables. Growth, Nature, Growing Stock, and Yield of the Fully Regulated Forest. Determination of the Cut. Regulation of Even-aged Forests. The Nature and Structure of Uneven-aged Management. Application of Uneven-aged Management—Case Analyses. Determination of the Rotation. Organization and Subdivision of the Forest for Management Timber Management Planning and Plans. VALUATION. Interest and Investment. The Arithmetic of Interest. Valuation of Forest Land and of the Timber Stand. Valuation of Stumpage. Valuation of the Tree. Valuation of Financial Alternatives. Appraisal of Damage. Appendix. Bibliography. Index.

DAVIS—Forest Fire
Control and Use
By KENNETH P. DAVIS, University of Michigan. *Amer. For. Series.*
584 *pp.*, 6 *x* 9, 122 *illus.* (1959).....$13.50*c*
Designed to impart an understanding of forest fire, its effects, and what is done to control it, this work represents the first book length treatment of the subject. Emphasis is placed on approaches and principles. Among the special topics treated are: combustion and fire behavior, especially of large fires; fire weather; fire effects and their use; and the use of aircraft in fire control.
CONTENTS—Preface. FIRE IN THE FORESTS—EFFECTS AND BEHAVIOR. Fire in the Forests. Fire Effects. Combustion of Forest Fuels. Forest Fire Behavior. Fire Weather. Forest Fuels. Fire Danger Rating. CONTROL OF FOREST FIRES. Prevention of Man-caused Fires. Hazard Reduction. Detection. Fire Suppression Methods and Tactics. Control-line Building. Water and Chemicals in Fire Suppression. Building and Operating a Fire Control Organization. Control of Large Fires. The Practice of Fire Control. FIRE IN FOREST LAND MANAGEMENT. Fire Control Objectives. Uses of Fire in Forest Land Management. Application of Prescribed Burning. Development and Status of Forest Fire Control in the United States.

GREELEY—Forest Policy

By COLONEL W. B. GREELEY, West Coast Lumbermen's Association, Seattle, Washington. *Amer. For. Series.*

267 *pp.*, 6 *x* 9, *illus.* (1953).....$6.75*c*

Deals with "forest policy" as including all forms of public and private activity by a nation designed to provide the products and services of forests. The book compares and discusses the Forest Policies of many different nations.

CONTENTS—Preface. PART I. ORIGINS AND IMPLEMENTS OF FOREST POLICY. Origins of Forest Policy. Ways and Means of National Action in Forestry. PART. II. ILLUSTRATIVE FOREST POLICIES. The Forest Policy of Germany. The Forest Policy of France. The Forest Policy of Switzerland. The Forest Policy of Russia. The Forest Policy of Japan. The Democratic Forest Policy of Scandinavia. The Forest Policy of Britain. The Forest Policy of Canada. Forest Policies of South America. PART III. THE FOREST POLICY OF THE UNITED STATES. Free Timber and Migrating Industries. The First Step in American Forestry—Education. The Second Step—Public Forest Management. The Third Step—Public and Private Cooperation. Growth in State Forest Policies. Private Forest Management in the United States. Forest Research. Forest Taxation, Flood Control and Water Conservation. Forestry Aids in America. The Status of National Wood Supply. Current Problems of American Forestry. PART IV. SUMMARY OF WORLD TRENDS IN FOREST POLICY. Paramount Public Interest. References. Index.

Range Management and Livestock

STODDART AND SMITH—Range Management

By LAURENCE A. STODDART and ARTHUR D. SMITH, Utah State Agricultural College. *Amer. For. Series.* Second Edition.

433 *pp.*, 6 *x* 9, 157 *illus.* (1955).....$8.95*c*

Emphasizing the methods of increasing production from range lands in terms of meat and wool and stressing the need of intelligent use in order to conserve the natural range resource, this book reviews early range history and describes the range lands of America and their vegetation.

CONTENTS—Preface. Development of Range Management in the United States. Physical Features of the Western United States Affecting Range Use. Grazing Regions of the United States. Plant Physiology in Relation to Grazing. Plant Ecology in Relation to Grazing. Technical Methods. Range Inventory and Condition Classification. Relationship of Native Fauna to Ranges and Range Use. Relationship of Grazing to Timber, Water Production and Soil Conservation. Poisonous-plant Problems on the Range. Nutrition in Relation to Range Management. Livestock Management and Ranch-operation Problems. Securing Proper Range Use. Eradicating Undesirable Range Plants. Artificial Seeding of Range Lands. Range Improvements. Index.

Wood Technology

HUNT AND GARRATT—Wood Preservation

By GEORGE M. HUNT, formerly United States Forest Products Laboratory, Madison, Wisconsin, and GEORGE A. GARRATT, Yale University. *Amer. For. Series.* Second Edition.

405 *pp.*, 6 *x* 9 (1953).....$9.95*c*

Covers the entire field of wood preservation, including the natural durability and treatability of different woods; descriptions of the important fungi and insects that destroy wood in storage and in use; descriptions of the more common wood preservatives and of methods of evaluating preservatives; protection of logs and lumber from deterioration during seasoning and storage; preparation of timber for treatment; methods of treating wood with preservatives; effect of treatment on wood properties; equipment and operation of treating plants; fireproofing chemicals and methods; and the economic aspects of wood preservation.

CONTENTS—The Field of Wood Preservation. Agencies of Wood Deterioration. Wood Preservatives. Preparation of Material for Treatment. Wood-preserving Processes. Factors Affecting Penetration and Absorption. Economic Aspects of Preservative Treatment. Properties of Treated Wood. Treating Plants and Equipment. Method of Protecting Wood Other Than by Standard Preservative Treatment. Fire-retarding Treatments.

PANSHIN, HARRAR, BETHEL AND BAKER—Forest Products

By A. J. PANSHIN, Michigan State University; E. S. HARRAR, Duke University; J. S. BETHEL, University of Washington; and W. J. BAKER. *Amer. For. Series.* Second Edition.

543 *pp.*, 6 *x* 9, 165 *illus.* (1962).....$12.50*c*

Here is an authoritative treatise on a diverse technical field. Each segment of the wood using industry is considered separately: furniture, cooperage, pulp and paper. The text discusses each division of the industry—its size, relative importance, and present and future status. Raw material used and the technologies and manufacturing processes involved are dealt with in detail. The resulting products and their utilization are stressed, with special attention given to new products. Every chapter has been thoroughly revised to bring it up to date with the present status and technological developments in a given segment of industry.

CONTENTS—Preface. ECONOMICS OF FOREST UTILIZATION. Timber Resources and Their Importance in the Economy of the United States. Wood Residues and the Related Problems of Wood-utilization Research. Relation of the Properties of Wood to Wood Utilization. WOOD PRODUCTS. Round Timbers. Mine Timbers. Railroad Ties. The Lumber Industry. Veneers and Plywood. Wood Furniture. Shingles and Shakes. Wood Containers. Wood Composition Board. Wood Flour. Sawdust and Shavings. Wood Fuel. Secondary Wood Products. CHEMICALLY DERIVED PRODUCTS FROM WOOD. Pulp and Paper. Cellulose-derived Products. Carbonization and Destructive Distillation of Wood. Wood Hydrolysis. DERIVED AND MISCELLANEOUS FOREST PRODUCTS. Naval Stores. Maple Sirup and Sugar. Christmas Trees. Wood in the Plastics Industry. Minor Forest Products. Index.

PANSHIN AND DE ZEEUW—Textbook of Wood Technology, 2nd Ed. Volume I

By A. J. PANSHIN, Michigan State Univ., and CARL DE ZEEUW, State Univ. Coll. of Forestry, Syracuse, N.Y. *Amer. For. Series.*

In Press

Thorough revision of the standard text for a course on wood as a major industrial material, with emphasis on structure, identification, and utilization of woods native to North America. Includes an integrated discussion of the anatomy of conifers and hardwoods, keys and information for the identification of North American timbers of commercial importance, and discussions of basic cellular structure and growth. Elements necessary to understanding wood as an engineering material and a chemical raw material are surveyed. A key for macerated woody fibers is also included. This edition incorporates changes in wood terminology and advances in the knowledge of the nature of cell wall substance.

Pulp and Paper Technology

PULP AND PAPER MANUFACTURE SERIES—J. N. Stephenson, Editor

Prepared under the direction of the Joint Executive Committee on Vocational Education representing the Pulp and Paper Industry of the United States and Canada.

Edited by J. N. STEPHENSON, *Pulp and Paper Magazine of Canada*.....$34.50*r*

This Series is the definitive work on the production of pulp and paper. It evolved from the activities of the Education Committee of the Technical Section of the Canadian Pulp and Paper Association and the Technical Association of the Pulp and Paper Industry, and the formation in 1918 of a Joint Textbook Committee. The Series presents the science and technology of pulp and paper making.

VOLUME I—Preparation and Treatment of Wood Pulp

1,043 *pp.*, 6 x 9, *illus.* (1950).....$12.00*vL*

CONTENTS—Structure and Properties of Pulpwood. Preparation of Pulpwood. Manufacture of Mechanical Pulp. Manufacture of Sulphite Pulp. Manufacture of Alkaline-Process Pulps. Treatment of Pulp. Bleaching of Wood Pulps. Testing of Wood Pulp.

VOLUME II—Preparation of Stock for Paper Making

587 *pp.*, 6 x 9, *illus.* (1951).....$8.50*vL*

CONTENTS—Pulping of Rag and Other Fibers. Wastepapers; Board-stock Preparation; Deinking Processes. Beating and Refining. Fillers and Loading. Sizing of Paper. Paper Coloring. Semichemical, High-yield Chemical, and Special Groundwork Pulping Processes.

VOLUME III—Manufacture and Testing of Paper and Board

945 *pp.*, 6 x 9, 409 *illus.* (1953)...$12.00*vL*

CONTENTS—Paper Making Machines. Hand-made Papers. Finishing of Paper. Coated Papers. Paper Testing.

VOLUME IV—Auxiliary Paper Mill Equipment

732 *pp.*, 6 x 9, 360 *illus.* (1955)....$9.00*vL*

CONTENTS—Instrumentation and Process Control. Pumps, Pumping Apparatus and Agitation Equipment. Materials Handling. Heating and Ventilation. Steam. Water. Electrical Equipment. Bearings and Lubrication.

PULP AND PAPER SCIENCE AND TECHNOLOGY—C. E. Libby, Editor

Edited by C. EARL LIBBY, formerly, School of Forestry, North Carolina State College. This two-volume work introduces the reader to the principles of pulping and paper making. It takes a technical approach by including basic theories underlying the production of pulps by various processes—and their conversion into paper: a) making pulp from fibrous raw materials; b) treating the pulp; c) preparing and adding nonfibrous components; d) making paper and paperboard; e) includes—coating, printing, and testing. Classroom tested, the book has been tailored to fill the need for a basic one-year course at college level. It provides a solid foundation for further study in this complex field. Several chapters contain problems that will be encountered in the operation of a mill. Other problems are included to help consolidate the student's understanding of the principles being discussed.

VOLUME I—Pulp

448 *pp.*, 6 x 9, 160 *illus.* (1962).....$9.00*c*

CONTENTS—1. History of Pulp and Paper—*C. E. Libby.* 2. Fibrous Raw Materials and Wood Structure—*I. H. Isenberg.* 3. Cellulose and the Hemicelluloses—*L. E. Wise.* 4. Extractives of Wood—*L. E. Wise.* 5. Chemistry of Lignin—*D. W. Glennie* and *J. L. McCarthy.* 6. Wood Procurement and Preparation—*G. B. Amidon, T. W. Campbell, T. W. Earle, C. S. Herr, J. E. McCaffrey, M. D. Robison,* and *P. Livingston.* 7. Introduction to Pulping—*C. P. Donofrio.* 8. Mechanical Pulping—*G. D. Pearce* and *W. Daniels.* 9. Alkaline Pulping—*R. C. MacDonald* and *J. N. Swartz.* 10. Sulfite Pulping—*E. O. Ericsson, J. L. McCarthy* and *D. A. Pearson.* 11. Semichemical and Chemimechanical Pulping—*J. N. McGovern.* 12. Other Pulping Processes—*J. Aitchison, R. M. Boehm, W. F. Carr, L. Jenness, F. Kurle, J. Lyon, R. H. McKee, F. W. O'Neil, D. Sutherland,* and *L. B. Tucker.* 13. Bleaching—*F. W. O'Neil, K. Sarkanen,* and *J. Schuber.* 14. Wastepaper Utilization and Deinking in the Board and Paper Industry—*W. A. Kirkpatrick.* 15. Pulp Screening and Cleaning—*P. M. Schaffrath.* 16. Cellulose-water Relationships—*W. Gallay.*

VOLUME II—Paper

428 *pp.*, 6 x 9, 101 *illus.* (1962).....$9.00*c*

CONTENTS—1. Stock Preparation—*E. M. Root.* 2. The Internal Sizing of Paper—*E. M. Engel.* 3. Fillers and Loading—*H. C. Schwalbe.* 4. Coloring of Paper—*H. A. Lips.* 5. Special Additives—*J. W. Swanson.* 6. Water and Water Reuse—*A. Thum.* 7. The Fourdrinier Paper Machine—*W. Kennedy* and *P. Wrist.* 8. Cylinder Machine Wet End—*H. D. Cook.* 9. Pressing—*Borje Wahlstrom.* 10. Drying and Ventilation—*H. G. Rappolt.* 11. Calendars, Supercalenders and Embossers—*Eric B. Norman.* 12. Surface Treatment of Paper and Board—*H. C. Schwalbe.* 13. Printing of Paper—*H. J. Connell* and *A. P. Reynolds.* Microbiology of Pulp and Paper—*R. A. Diehm.* 15. Testing of Pulp and Paper—*C. E. Brandon.*

Zoology

McGRAW-HILL PUBLICATIONS IN THE ZOOLOGICAL SCIENCES

(Pub. in Zool. Sc.)

E. J. Boell, Consulting Editor

Gibbs Memorial Laboratory, Yale University

Baitsell—Human Biology
Breland—Manual of Comparative Anatomy
Hyman—The Invertebrates
- Vol. I—Protozoa through Ctenophora
- Vol. II—Platyhelminthes and Rhynchocoela
- Vol. III—Acanthocephala, Aschelminthes, and Entoprocta
- Vol. IV—Echinodermata
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Storer and Usinger—Laboratory Manual for Zoology
Weichert—Anatomy of the Chordates
Weichert—Elements of Chordate Anatomy
Weichert—Representative Chordates
Welch—Limnology

General Zoology

MORGAN—Kinships of Animals and Man

By ANN M. MORGAN, formerly Mount Holyoke College.

848 *pp.*, 6 x 9, *illus.* (1955).....$7.95*c*
Laboratory Studies (1957).....$3.90*c*

Emphasizing the natural history aspects of the subject, this book considers zoology as a living science, dealing with living animals and stressing their relationships to each other and to their environment. Ecology is emphasized: animals are studied as social beings associated with their environments, and as individuals each of which

contains a complex internal environment affected by the external one.
CONTENTS (Partial)—Relationships of the Living World. THE FOUNDATION. Life Is a Concern of Matter and Energy. Living Matter and Cells. ECOLOGY. Plants Provide for Themselves and the Animals. Animals and Their Environment. Mutual Relationships of Animals. THE INTERNAL ENVIRONMENT OF THE BODY. THE NEW INDIVIDUAL. Development. The Physical Basis of Heredity. EVOLUTION OF ANIMALS—THE MAIN GROUPS. EVOLUTION AND CONSERVATION. Organic Evolution—Conservation. Classification of Main Groups of Plants and Animals. Collateral Reading List. Index.

STORER AND USINGER—General Zoology
By TRACY I. STORER, formerly University of California, Davis, ROBERT L. USINGER, University of California, Berkeley. *Pub. in Zool. Sc.* Third Edition.
650 *pp.*, 7¼ *x* 9⅛, *illus.* (1957)....$7.95*c*
Laboratory Manual for General Zoology, Third Edition (Storer)
181 *pp.*, 6 *x* 9 (1958).....$3.50*c*
Correlated Text-Film Filmstrip Series—ten 35mm silent filmstrips available.....$59.00
A leading text since publication. Chapters follow a common pattern that facilitates work of instructors and students. Each includes: Place of the group in the animal kingdom; distinctive characteristics; relationships to other groups; description of one or more representative types of the group; comparative features of other members of the group; and economic importance of the group to human affairs.
CONTENTS—PART I. GENERAL ANIMAL BIOLOGY. Introduction. The Frog as a Representative Animal. Protoplasm, Cells, and Tissues. Organs and Organ Systems. Reproduction and Development. Heredity and Genetics. Animal Ecology. Distribution of Animals. Organic Evolution. History of Zoology. Classification and Nomenclature. PART II. THE ANIMAL KINGDOM. Phylum Protozoa. One-celled Animals. Phylum Porifera. Sponges. Phylum Coelenterata. Coelenterates. Phylum Ctenophora. Ctenophores. Phylum Platyhelminthes. Flatworms. Class Nematoda. Round Worms. Miscellaneous Phyla and Groups. Phylum Echinodermata. Echinoderms. Phylum Mollusca. Mollusks. Phylum Annelida. Segmented Worms. Phylum Arthropoda. Jointfooted Animals. Class Insecta. Insects. Miscellaneous Arthropoda. Phylum Chordata. The Lower Chordates. Class Cyclostomata. Cyclostomes. Class Chondrichthes. Cartilaginous Fishes. Class Osteichthyes. Bony Fishes. Class Amphibia. Amphibians. Class Reptilia. Reptiles. Class Aves. Birds. Class Mammalia. Mammals. Mankind. Glossary. Index.

STORER AND USINGER—Elements of Zoology
By TRACY I. STORER, formerly University of California at Davis and ROBERT L. USINGER, University of California at Berkeley. Second Edition.
464 *pp.*, 7¼ *x* 9⅛, 339 *illus.* (1961)..$7.50*c*
Primarily for elementary college students who plan to limit their study of zoology to one semester. In essence, the book has been divided into two major sections: principles of animal biology and major types and groups of animals—from Protozoans to Mankind. The latter section describes structures and bodily processes and summarizes habits and reproduction. This second edition includes new developments in physiology and biochemistry with a brief account of chemical and physical properties of matter. The role of DNA and RNA in cell functions and in chromosome duplication are considered, and the central place of enzymes in biological systems is emphasized. The subject of ecology has been revised and brought up to date. New animal types—the Pogonophora and Neopilina—are included. Each chapter is followed by a brief review so that students may test their knowledge and understanding of the subject matter.
CONTENTS—Introduction. A Representative Animal: The Frog. The Animal Body. Body Covering. Skeleton, and Body Muscles. Digestive Systems and Metabolism. Circulatory Systems. Respiratory Systems. Excretory Systems and Regulation. The Endocrine Glands of System. Nervous Systems and Sense Organs. Reproduction and Development. Heredity and Genetics. Animal Ecology and Distribution. Organic Evolution. Classification of Animals. One-celled Animals. Sponges and Coelenterates. Flatworms and Roundworms. Echinoderms and Miscellaneous Groups. Mollusks. Segmented Worms. Jointfooted Animals. Insects. Introduction to the Chordates.

Systematic Zoology

MAYR, LINSLEY, AND USINGER—Methods and Principles of Systematic Zoology
By ERNST MAYR, Harvard University, E. GORTON LINSLEY and R. L. USINGER, University of California. *Pub. in Zool. Sc.*
328 *pp.*, 6 *x* 9, 45 *illus.* (1953).....$8.50*c*
Presents the principles and methods of zoological classification, both in its purely practical aspects and in relation to evolutionary studies. The subject is treated first according to the historical development of taxonomic concepts followed by consideration of the species and infra-specific categories and the classification of higher categories. The second part of the book is devoted to taxonomic procedure. Finally, nomenclature is discussed.
CONTENTS—Preface. PART I. TAXONOMIC CATEGORIES AND CONCEPTS. Taxonomy, Its History and Functions. The Species and the Infra-specific Categories. Classification and the Higher Categories. PART II. TAXONOMIC PROCEDURE. Collecting and Collections. Identification and Taxonomic Discrimination. Taxonomic Characters. Quantitative Methods of Analysis. Presentation of Findings. Preparation of Taxonomic Papers. PART III. ZOOLOGICAL NOMENCLATURE. Historical and Philosophical Basis of Nomenclature. The Principle of Priority. The Type Method and Its Significance. Specific and Infra-specific Names. Generic Names. Family Names. Names of Orders, Classes, and Phyla. Ethics in Taxonomy. Glossary. Index.

Vertebrates

BLAIR, BLAIR, BRODKORB, CAGLE, AND MOORE—Vertebrates of the United States
By W. FRANK BLAIR, University of Texas; ALBERT P. BLAIR, University of Tulsa; PIERCE BRODKORB, University of Florida; FRED R. CAGLE, Tulane University; and GEORGE A. MOORE, Oklahoma A. & M. College.
788 *pp.*, 6⅛ *x* 9¼, 444 *illus.* (1957)..$13.75*c*
Fills the need for information concerning the identification and distribution of the fishes, amphibians, reptiles, birds, and mammals of the United States. Keys to classes, orders, families, genera, and species of all known vertebrates within our boundaries are included. All species are listed with distinguishing characters and geographic ranges. Geologic ranges are given for all orders. Although fossil forms are not included in the keys, all orders, both living and fossil, are listed with the numbers of living and fossil families of each.
CONTENTS—Introduction (W. F. Blair). Fishes (G. A. Moore). Amphibians (A. P. Blair). Reptiles (F. R. Cagle). Birds (P. Brodkorb). Mammals (W. F. Blair). Glossary. Index.

Invertebrates

HYMAN—The Invertebrates
By LIBBIE H. HYMAN, American Museum of Natural History. *Pub. in Zool. Sc.*
A five-volume work which presents the group in general rather than particular species. The approach is new and unique among zoological

books using more ecology and physiology than is usual. The treatment in every volume is thorough and detailed with a strictly zoological viewpoint. A wealth of excellent illustrations adds to the clarity of presentation. The volumes form a monumental treatise for advanced students and teachers and are suitable as a reference in invertebrate zoology courses.

VOLUME I—Protozoa through Ctenophora
720 *pp.*, 6 x 9, *illus.* (1940) $14.75*r*
CONTENTS—Protoplasm, the Cell, and the Organism. Classification. The Acellular Animals—Phylum Protozoa. Phylum Mesozoa. Introduction to the Lower Metazoa. Metazoa of the Cellular Grade of Construction—Phylum Porifera, the Sponges. Metazoa of the Tissue Grade of Construction—the Radiate Phyla. Phylum Cnidaria. The Radiate Phyla-Phylum Ctenophora.

VOLUME II—Platyhelminthes and Rhynchocoela
550 *pp.*, 6 x 9, 208 *illus.* (1951) $14.75*r*
CONTENTS—Introduction to the Bilateria. The Bilateral Phyla. Origin of the Bilateria. Spiral Cleavage, and Determinate Development. The Trochophore Larva, the Trochophore Theory, and the General Phylogenetic Significance of Larval Types. Modes of Origin of the Metazoa. Body Cavities of the Bilateral Segregation. The Organ Systems of the Bilateria. Bibliography. The Acoelomate Bilateria—Phylum Platyhelminthes: Historical Characters of the Phylum. Classification of the Phylum. Morphology and Physiology. Phylogenetic Considerations. Bibliography. Class Turbellaria. Class Trematoda. Class Cestoda. General and Phylogenetic Considerations. Bibliography. The Acoelomate Bilateria—Phylum Rhynchocoela: Historical Characters of the Phylum. Classification of the Phylum. Morphology and Physiology. Phylogenetic Considerations. Bibliography.

VOLUME III—Acanthocephala, Aschelminthes, and Entoprocta
572 *pp.*, 6 x 9, 223 *illus.* (1951) $14.75*r*
CONTENTS—The Pseudocoelomate Bilateria—Phylum Acanthocephala: Historical Characters of the Phylum. Classification of the Phylum. Morphology and Physiology. Phylogeny. The Pseudocoelomate Bilateria—Phylum Aschelminthes: Historical Characters of the Phylum. Classification of the Phylum. Class Rotifera. Class Gastrotricha. Class Kinorhyncha. Class Priapulida. Class Nematoda. Class Nematomorpha. The Pseudocoelomate Bilateria—Phylum Entoprocta: Historical Characters of the Phylum. Morphology and Physiology. Phylogenetic Considerations.

VOLUME IV—Echinodermata
763 *pp.*, 6 x 9, 280 *illus.* (1955) $14.75*r*
CONTENTS—Historical Characters of the Phylum. Classification of the Phylum. The Nonchordate Prosopora. Class Cystoidea. Subphylum Eleutherozoa. Class Holothuroidea. Class Asteroidea. Class Echinoidea. Class Ophiuroidea. Class Ophiocistioidea. Phylogenetic and Comparative Considerations.

VOLUME V—Smaller Coelomates Groups. Chaetognatha, Hemichordata, Pogonophora, Phoronida, Ectoprocta, Brachiopoda, Sipuncula
783 *pp.*, 6 x 9, 241 *illus.* (1959) $14.75*r*
CONTENTS—Preface. The Eucoelomate Coelomates—Phylum Chaetognatha. The Eucoelomate Coelomates—Phylum Hemichordata. The Eucoelomate Coelomates—Phylum Pogonophora. The Lophophorate Coelomates—Phylum Phoronida. The Lophophorate Coelomates—Phylum Ectoprocta. The Lophophorate Coelomates—Phylum Brachiopoda. The Protostomate Coelomates—Phylum Sipuncula. Retrospect. Addenda to Bibliographies. Index.

PRATT—Manual of the Common Invertebrate Animals Exclusive of Insects
By HENRY SHERRING PRATT.
854 *pp.*, 974 *illus.* (1935) $12.50*r*
Authoritative guide giving descriptions of common invertebrate animals by which their names and affinities can be determined. Includes a morphological description of the groups, an account of the habits and distribution, analytical tables, and descriptions of species of larger groups of animals.
CONTENTS—Introduction. Phylum Protozoa: Porifera; Coelenterata; Ctenophora; Platyhelminthes; Nemertea; Nemathelminthes; Trochelminthes; Bryozoa; Brachiopoda; Phoronidea; Chaetognatha; Annelida; Arthropoda; Mollusca; Chordata. List of Authors. Glossary. Index.

Limnology

WELCH—Limnology
By PAUL S. WELCH, formerly University of Michigan. *Pub. in Zool. Sc.* Second Edition.
538 *pp.*, 6 x 9, 50 *illus.* (1952) $11.00*c*
Discusses the biological productivity of inland waters and its various life forms. It is general, without emphasis on any special area. Suitable for text and reference use in senior-graduate courses. The reader should have a background of course work in zoology, botany, and elementary chemistry.
CONTENTS—Inland Waters. Lakes, Their Origin and Diversity. Nature of Inland-Water Environments. Physical Conditions and Related Phenomena. Chemical Conditions and Related Phenomena. Biological Relations. Influence of Physical Conditions. Influence of Chemical Conditions. Organisms in Inland Waters. Plankton. Bacteria, Other Fungi, and Nonplankton Algae. Larger Aquatic Plants and Their Limnological Significance. Nekton. Benthos. Biological Productivity. Some Special Types of Lentic Environments. Ponds. Bog Lakes. Lotic Environments. Running Waters in General. Bibliography.

WELCH—Limnological Methods
By PAUL S. WELCH, formerly University of Michigan.
381 *pp.*, 97 *illus.* (1948) $9.50*c*
Presents essentials for limnological surveys of lakes and streams, and fundamentals upon which research depends. This book brings together in one well-arranged volume most of the methods and data for studies of aquatic organisms.
CONTENTS—Hydrographic Mapping and Morphometry. Physical Methods. Chemical Methods. Biological Methods.

Parasitology

SAWITZ—Medical Parasitology
For Medical Students and Practicing Physicians
By WILLIAM G. SAWITZ, M.D., Jefferson Medical School. Second Edition.
342 *pp.*, 6 x 9, 89 *line drawings*, 1 *color plate* (1956) $7.95*m*
Dealing with the Protozoa, Helminths, and Arthropods which cause or transmit human disease, the book discusses each parasite as to its life cycle, its effects on the human body, and diagnosis and prevention of the disease it causes or carries. Emphasizing an understanding of basic parasitology, Dr. Sawitz discusses the medical aspects of the subject, including zoological data only when they aid in the understanding of these diseases or contribute to the specific diagnosis. To aid in convenient study, treatment of parasitic disease is discussed in a separate chapter, general considerations of diagnostic parasitology are taken up in a synopsis, and etymologies and definitions of technical terms are given in a vocabulary.
CONTENTS—Protozoa. Helminths. Arthropods. Treatment. Synopsis. Techniques for Laboratory Diagnosis. Vocabulary of Technical Terms.

THORNE—Principles of Nematology
By GERALD THORNE, The University of Wisconsin. *Pub. in Agr. Sc.*
553 *pp.*, 6 x 9, *illus.* (1961) $15.00*c*
The text stresses the importance of nematodes in our present agricultural economy, and cites examples of crop losses incurred because of the plant parasitic nature of many species. Pertinent available information presents the life history, hosts, distribution, and control of each species. Detailed descriptions emphasize identification of ecto- and endo-parasitic nematodes,

including a study of their morphology and symptoms of plant diseases incited by them. Most of the descriptions have been made from actual studies of specimens in Professor Thorne's collection which includes about 40,000 nematodes, representing over 2,000 species.
CONTENTS—Preface. 1. Introduction. Historical. Role of Plant Parasitic Nematodes in Agriculture. Methods of Controlling Nematodes. Experimental Techniques. Training Suggestions for Nematologists. 2. Collecting and Processing Soul and Plant Material. 3. Microscopic Techniques. Morphology of Nematodes. Identifying Nematodes. Describing New Species. 4. Classification of the Phylum Nemata. Outline of Order Tylenchida. 5. Tylenchinae: Genera *Tylenchus, Tylenchorhynchus, Tetylenchus, Trophyurus, Psilenchus,* and *Macrotophurus.* 6. Genera *Ditylenchus* and *Pseudhalenchus.* 7. Genus *Anguina.* 8. Subfamily Hoplolaiminae. 9. Subfamily Pratylenchinae, Genera of Uncertain Position. 10. Family Neotylenchindae. 11. Family Heteroderidae, Genus *Heterodera.* 12. Genera *Meloidogyne* and *Meloidodera.* 13. Family Criconematidae. 14. Family Tylenchulidae. 15. Superfamily Aphelenchoidea. 16. Order Rhabditida: Families Rhabditidae, Cephalobidae. 17. Class Adenophorea, Miscellaneous Adenophorea. Bibliography. Index.

Comparative Anatomy

BRELAND—Manual of Comparative Anatomy
By O. P. BRELAND, the University of Texas.
Pub. in Zool. Sc. Second Edition.
256 *pp.*, 6 *x* 9, *illus.* (1953).....$5.95*c*
The book gives complete, step-by-step dissection directions. Emphasis is on the comparative aspects of the organs and systems. Complete drawing directions, as well as a list of labels that should be placed on each drawing, are included. For a one-semester course, one or more sections may be omitted without breaking the continuity of the material. This is possible because paragraphs are inserted in the text from time to time which compare the structures studied in the various species that are used.
CONTENTS—Introduction. Amphioxus, or Branchiostoma. The Lamprey. The Dogfish. The Perch. Necturus. The Turtle. The Cat. The Pigeon. Index.

KENT—Comparative Anatomy of the Vertebrates
By GEORGE C. KENT, JR., Louisiana State University.
530 *pp.*, 405 *illus.* (1954).....$7.95*c*
The unique contribution of this work is its emphasis upon the single architectural plan upon which the structure of all vertebrates is based and against which the modifications encountered in successively higher forms must be viewed. While morphology is stressed throughout, embryologic and paleologic data necessary to an understanding of vertebrate phylogeny is also provided.
PARTIAL CONTENTS—Preface. Vertebrate Characteristics. Protochordates. Parade of the Vertebrates. Early Vertebrate Embryogeny. Integument. Skeleton (Part I—Vertebrae, Ribs, Sternum, Heterotopic Bones). Skeleton (Part II—Skeleton of the Head). Skeleton (Part III—Appendicular Skeleton). Muscular System. Digesting System. Respiratory System. Circulatory System. Urogenital System. Nervous System. Sense Organs. Endocrine Glands. Selected References. Index.

LEACH—Functional Anatomy
Mammalian and Comparative
By W. JAMES LEACH, Ohio State University.
Pub. in Zool. Sc. Third Edition.
338 *pp.*, 6 *x* 9, 113 *ilius.* (1961).....$6.50*c*
Presents the essential elementary features of mammalian anatomy. The text emphasizes mechanical arrangement of structures, and is intended to point out similarities and differences between the quadrupeds and man. Two essentially new features are included in this book. One is concerned with the general biological principles that the author feels should give students a more adequate foundation for an understanding of the scope of functional morphology. The second feature is included in a new chapter in which the author relates the morphology of the mammal to the structural conditions of lower vertebrates in terms of "phylogenetic advancements." Subject matter dealing with the more specific features of the mammals as a class has been revised and reorganized into a new chapter.
CONTENTS—Preface to Third Edition. Preface to First Edition. PART ONE: INTRODUCTION TO FUNCTIONAL AND COMPARATIVE MORPHOLOGY. General Considerations. Phylogeny—Racial Origins and History. The Class Mammalia. Topics for Discussion and Review. PART TWO: A GUIDE TO THE DISSECTION OF THE CAT WITH REFERENCE TO STRUCTURAL AND FUNCTIONAL RELATIONSHIPS BETWEEN THE CAT AND MAN. The Skeletal System. Superficial Dissection of the Cat. A Study of the Voluntary Muscles. A Survey of Internal Anatomy. The Alimentary System. The Respiratory System. The Vascular System. The Urogenital System. The Nervous System. Special Sensory Apparatus. The Endocrine Organs. Appendix, Laboratory Preparation and Preservation, Dissection of Materials. Index.

SENNING—Laboratory Studies in Comparative Anatomy
By W. C. SENNING, New York State Conservation Department. *Pub. in Zool. Sc.*
188 *pp.*, 6 *x* 9, *illus.* (1937).....$4.25*c*
Outline Drawings, 60 *plates*, 8½ *x* 11 (1937) $4.95*c*
The manual comprises a rather extensive set of systematic studies on the shark, Necturus, and the cat, selected and arranged to give a thorough introduction to vertebrate anatomy. Directions are unusually full and complete. A distinctive feature is the accompanying set of *Outline Drawings for Laboratory Studies in Comparative Anatomy.* By their use much time ordinarily spent in drawing can be devoted to more complete and careful studies than would otherwise be possible.
CONTENTS—The Skeletal System; The Muscular System; The Nervous System and Sense Organs; The Viscera; The Circulatory System.

WEICHERT—Anatomy of the Chordates
By CHARLES K. WEICHERT, University of Cincinnati. *Pub. in Zool. Sc.* Second Edition.
899 *pp.*, 6 *x* 9, 261 *illus.* (1958).....$9.90*c*
A complete revision of a text for the full-year college courses in "Comparative Anatomy," and a reference for medical students and students taking advanced biology. As before, the book has been carefully prepared, presenting the subject in a readable, interesting manner, using profuse illustrations as an aid to understanding and to arousing interest in the subject.
CONTENTS—Preface. PART I. REVIEW OF THE PHYLUM CHORDATA. Introduction. Classification and Evolution of the Chordates. Development of the Individual. PART II. ORGAN SYSTEMS OF VERTEBRATES. Integumentary System. Digestive System. Respiratory System and Related Structures. Excretory System. Reproductive System. Endocrine System. Skeletal System. Muscular System. Circulatory System. Nervous System. Receptor Organs. PART III. REPRESENTATIVE ANIMALS. The Marine Lamprey. The Spiny Dogfish. The Mud Puppy. The Cat. SUMMARY. Characteristics and Advances. Index.

WEICHERT—Elements of Chordate Anatomy
By CHARLES K. WEICHERT, University of Cincinnati. *Pub. in Zool. Sc.* Second Edition.
503 *pp.*, 6 *x* 9, 267 *illus.* (1959).....$7.95*c*
A well-organized condensation of the author's successful *Anatomy of the Chordates,* this text is designed to be used in one-semester courses in comparative anatomy of the vertebrates. It includes a survey of the phylum *Chordata* with classification of animals within the phylum,

principles of embryonic development introducing the germ layer concept, and a comparative study of the organ systems of the body. In this second edition, more emphasis is placed on evolutionary trends within the phylum *Chordata.*

CONTENTS—Preface. Introduction. Subdivisions of the Phylum Chordata. Development of the Individual. Integumentary System. Digestive System. Respiratory System and Related Structures. Excretory System. Reproductive System. Endocrine System. Skeletal System. Muscular System. Circulatory System. Nervous System. Receptor Organs. Characteristics and Advances. Index.

WEICHERT—Representative Chordates
By CHARLES K. WEICHERT, University of Cincinnati. *Pub. in Zool. Sc.* Second Edition.
218 *pp.*, 6 *x* 9, 108 *illus.* (1961).....$4.50*c*

This text includes detailed illustrative material as well as detailed descriptions of the anatomy of four representative chordates: the marine lamphrey, Petromyzon marinus; spiny dogfish, Squalus acanthias; the mud puppy, Necturus maculosus; and the cat, Felis domestica. Numerous illustrations of the animals and structures to be studied also are included. This second edition has been completely revised and many changes in terminology have been adopted. Information concerning the natural history and the functional role of the organ systems of the representative chordates is included wherever feasible.

CONTENTS—Preface. Introduction. The Marine Lamprey (Petromyzon Marinus). The Spiny Dogfish (Squalus Acanthias). The Mud Puppy (Necturus Maculosus). The Cat (Felis Domestica). Index.

Anatomy and Physiology

General

DE COURSEY—The Human Organism
By RUSSELL M. DECOURSEY, University of Connecticut. Second Edition.
550 *pp.*, 6 *x* 9, *illus.* (1961).....$7.95*c*
Laboratory Manual of Human Anatomy and Physiology, 2 Ed. (DeCoursey and Dolyak)
128 *pp.*, 8½ *x* 11 (1963).....$3.25*c*
Here is a thorough, well-integrated text about human anatomy and physiology. In this edition the first two chapters are devoted to elementary concepts of chemistry and physics. Greater emphasis has been placed on the basic problems of cellular physiology, and many of the newer concepts of energy metabolism have been included in this edition. Among the new subjects discussed are muscle and nerve physiology, the part that vitamins play as coenzymes, the tricarboxylic acid cycle and the cytochrome system. Some new illustrations are included, all others have been redrawn, and where appropriate, both a drawing and a photograph have been inserted. This book was written for the Liberal Arts student who does not intend to major in zoology; its primary purpose is to give the student a clear understanding of the basic principles of his own anatomy and physiology.

CONTENTS—Preface. Basic Principles. Functional Aspects of Cellular Metabolism. The Cell. Epithelial and Connective Tissues. The Skeleton. Muscle Physiology. Skeletal Muscles. The Nervous System. The Brain. The Autonomic Nervous System. Sense Organs; The Eye. The Blood. The Heart and the Systemic Circulation. Physiology of Circulation. The Respiratory System. The Digestive System. Foods, Nutrition, and Metabolism. The Excretory System. The Endocrine System. The Reproductive System. Human Development. List of References. Glossary. Index.

Human Anatomy

BRANTIGAN—Clinical Anatomy
By OTTO C. BRANTIGAN, M.D., University of Maryland Medical School.
421 *pp.*, 8½ *x* 11, 638 *illus.* (1963).$15.00*m*
A correlation of anatomy, clinical medicine and surgery, this outstanding work presents anatomy by simple diagramatic drawings with emphasis on the anatomy that is concerned in physical diagnosis, tests requiring use of the insertion of needles, and the relationship of anatomy to disease and operative treatment. Beginning with a chapter on surface anatomy which relates information in this area to physical diagnosis, the author has then presented successive chapters on Needling, Puncture, and Centesis; Incisions; Fascia; Abdominal Hernia; Joints; Extremities; Fractures; Collateral Circulation; Lymphatic Drainage; the Autonomic Nervous System; the Peritoneal Cavity; the Pelvis and Perineum; the Thorax; and the Brachial Structures, Head and Neck. An outstanding feature of this book is a description of male and female anatomy with comparisons. Particular attention should be given to the presentation of the actual size of the female pelvic outlet and its comparison with the actual size of the abnormally contracted female pelvis.

EDWARDS—Concise Anatomy
By LINDEN F. EDWARDS, formerly The Ohio State University. Second Edition.
520 *pp.*, 6 *x* 9, 319 *illus.* (1956).....$8.50*c*
Designed to meet the needs of students for whom a (a) knowledge of the basic principles of human anatomy and general, over-all structure of the human body is essential. Like the large standard treatises on the subject, this text deals with systematic, descriptive, surface and applied anatomy of the human body, including the general embryological and histological aspects. However, the method of approach differs from what is traditionally followed, in that the human body is described by regions.

CONTENTS—Introduction. GENERAL ANATOMY. General Microscopic and Developmental Anatomy. General Osteology. General Arthrology. General Myology. General Neurology. General Angiology. General Dermatology. THE SUPERIOR EXTREMITY. Osteology. Musculature. Articulations. Vessels and Nerves. THE INFERIOR EXTREMITY. ANATOMY OF THE HEAD. The Skull. Musculature. Nervous System. Vessels. ANATOMY OF THE NECK AND TRUNK. SPLANCHNOLOGY. The Respiratory System. The Digestive System. The Urogenital System. The Endocrine System. Vessels and Nerves of the Thoracic and Abdominal Viscera. Bibliography. Index.

SCHAEFFER—Morris' Human Anatomy
Edited by J. PARSONS SCHAEFFER, M.D., Ph.D., Sc.D.; Jefferson Medical College. Eleventh Edition.
1718 *pp.*, 7 *x* 10½, over 1220 *numbered figs.*, 8 *plates of X-rays* (1953).....$17.00*m*
The practical clinical applications have been emphasized even more heavily in this edition, so that the book may be used as a reference book as well as a textbook. Variations and other special material now appear in smaller

but readable type for easy selection. A special attempt is made to help the student by comparisons (particularly by X-rays) of the cadaver anatomy to the functioning being.

CONTENTS—PREFACE. A HISTORICAL RECORD. INTRODUCTION. SECTION I. DEVELOPMENTAL ANATOMY. SECTION II. THE SKIN AND MAMMARY GLANDS. SECTION III. OSTEOLOGY. SECTION IV. THE ARTICULATIONS. SECTION V. THE MUSCULATURE. SECTION VI. THE CARDIOVASCULAR SYSTEM. SECTION VII. THE LYMPHATIC SYSTEM AND THE SPLEEN. SECTION VIII. THE NERVOUS SYSTEM. SECTION IX. THE SENSE ORGANS. SECTION X. THE DIGESTIVE SYSTEM. SECTION XI. THE RESPIRATORY SYSTEM. SECTION XII. UROGENITAL SYSTEM. SECTION XIII. 1. THE ENDOCRINE GLANDS. 2. MISCELLANEOUS ORGANS. Index.

TOBIN—Shearer's Manual of Human Dissection

Edited by CHARLES E. TOBIN, Ph.D., University of Rochester. Fourth Edition.

258 *pp.*, 7¼ *x* 9⅞, 97 *illus.* (1961) . . $7.95*m*

This manual is intended to supply the inexperienced dissector with concise, specific directions for dissection procedures. Additional dissection procedures for the brain, eyeball, oral cavity, middle ear, and fascial spaces of the head and neck have been added to this fourth edition, but in accord with the basic plan for the work all directions have been kept as concise as is consistent with clarity. Terminology has been modernized, and most of the newer, more descriptive terms from the Nomina Anatomica (Paris, 1955) have been adopted. Wherever a new term is introduced, however, the older term is also given so that the student may be familiar with both terminologies. This manual is adaptable to various plans or sequences of dissection without overburdening the dissector with detailed instructions or, on the other hand, neglecting to indicate and correlate the structures of the human body. Since the manual is designed as an autonomous unit, it does not have to be used in conjunction with, or with reference to, any specific descriptive text or human anatomy. The dissector should use this book in view of the purpose for which it has been written—a manual of human dissection. If he is to obtain a thorough understanding of human anatomy, the student should supplement the information gained from the dissection and from the brief descriptions and illustrations in this manual with collateral reading in one of the stand descriptive texts. Most of the illustrations are still the original ones made by Dr. Shearer for the first edition of this manual. They have been changed only where additional guide lines or labels, and slight changes in the legends would enhance the usefulness of the illustrations. Illustrations from other sources have been added for the new chapters, and to enhance visualization of the material presented, the size of some of the original illustrations has been enlarged.

CONTENTS—Pectoral Region. Axilla. Triangles of Neck. Structures under Sternomastoid. Root of Neck. Back. Head and Neck. Larynx. Thorax. Abdomen. Penis, Scrotum, and Testes. Inguinal Region—Inguinal Hernia. Abdominal Cavity. Diaphragm and Posterior Abdominal Wall. Perineum. Pelvis Minor. Superior Extremity. Inferior Extremity.

BOYDEN—Segmental Anatomy of the Lungs

A Study of the Patterns of the Segmental Bronchi and Related Vessels

By EDWARD A. BOYDEN, Ph.D. (Med. Sc.) University of Washington.

304 *pp.*, 6⅞ *x* 10⅝, 137 *illus.* (1955) $16.00*m*

An original study of the prevailing patterns and variations of the bronchopulmonary segments—a synthesis of 9 years of intensive investigative work by Dr. Boyden and his colleagues. This group dissected and injected large numbers of both adult and embryonic lungs lobe by lobe, in order to provide comprehensive and detailed maps of the lungs and an understanding of their gross structure.

CONTENTS—Historical Review. General Survey of Bronchial Tree—Prevailing Patterns and Terminology. The Right Upper Lobe. The Hilar Portions of the Interlobar Fissures. The Middle Lobe. The Left Upper Lobe. The Right Lower Lobe—Surfaces, Margins, and Crests. The Left Lower Lobe. The Development of the Lungs and the Formation of Gross Congenital Anomalies. The Lungs as a Whole.

VILLIGER—Atlas of Cross Section Anatomy of the Brain

Guide to the Study of the Morphology and Fiber Tracts of the Human Brain

Fifth Section of Emil Villiger's *Brain and Spinal Cord*. Fourteenth Edition revised by EUGEN LUDWIG, further revised by A. T. RASMUSSEN, Ph.D.

63 *plates*, 8 *x* 11 (1951) $6.00*m*

Includes three groups of illustrations rather than two as found in the original Villiger. Each group is preceded by an outline figure which is used as a key in determining where the sections illustrated intersect the brain stem. Each plate is complete, yet not burdened with irrelevant details.

CONTENTS—Transverse series from lower medulla oblongata to upper midbrain in order, from below upward. Frontal (somewhat oblique) series through upper brain stem and cerebral hemispheres, progressing from posterior to anterior. Parasagittal series through right cerebral hemisphere (viewed from the left) in order, from within outward. Index.

WISCHNITZER—Outline of Human Anatomy

By SAUL WISCHNITZER, Ph.D., New York Medical College, and PAUL SINGH-ROY, Illustrator.

392 *pp.*, 6⅛ *x* 8⅛, 351 *illus.* (1963) . . $6.95*m*

Because of the arrangement of material, the OUTLINE serves a dual purpose: it is an orientation text for the beginning medical student and a review book for periodic, final, and "board" examinations. The book is divided into eight sections, each one dealing with a major area of the body. Illustrations are placed adjacent to the corresponding text material, facilitating the study and comparison of the anatomy of a particular area at different depths. There are approximately 107 full-page plates, each containing from two to six individual illustrations. The current Nomina Anatomica terminology (Paris 1955, revised New York 1960) is used. There is a comprehensive index.

CONTENTS—Preface. Head. Neck. Upper Extremity. Thorax. Abdomen. Pelvis. Lower Extremity. Back.

Neuroanatomy

HOUSE AND PANSKY—A Functional Approach to Neuroanatomy

By E. LAWRENCE HOUSE, Ph.D., and BEN PANSKY, Ph.D.

494 *pp.*, 7¼ *x* 9⅞, *illus.* (1960) $12.50*m*

Prepared with the needs of the medical student continually in mind, this work presents basic neuroanatomy in a stimulating fashion. Using a functional, yet systematic approach, the authors integrate clinical considerations into practically every chapter, including testing and symptoms of neurologic disorders. Many original illustrations implement the text and serve to amplify and clarify the students' understanding of the written material. Every chapter includes a summary at the end which corre-

lates the material in that chapter and aids the students' review of it. Throughout the text there is continual reference to gross anatomy and embryology in an effort to develop an understanding of the nervous system in relation to other systems. The inclusion of an atlas of brain sections enables the student to better orient his thinking and learning, while the addition of some actual case histories points up the importance of neuroanatomy to clinical practice. Over 300 newly executed black and white illustrations carefully prepared by Dr. Pansky.

CONTENTS—Trends in Evolution. Anatomy of the Brain. Anatomy of the Spinal Cord. Coverings and Vascularization of the Central Nervous System. Development of the Nervous System. Basic Structure and Function of the Nervous System. Functional Classification of Systems and Reflexes. General Somatic Afferent System (GSA). Special Somatic Afferent System (SSA). General Visceral Afferent System (GVA). Special Visceral Afferent System (SVA). General Proprioception (GP). Special Proprioception (SP). General Somatic Efferent System (GSE). General Visceral Efferent System (GVE) (Autonomic System). Special Visceral Efferent System (SVE). Summary of Functional Components of Peripheral Nerves. Cerebellar Modification of Muscular Activity. Extrapyramidal Modification of Muscular Activity. Pyramidal Control of Muscular Activity. Hypothalamic Control of Visceral Function. Thalamic Relay and Correlation Center to the Cortex. The Cerebrum as the Highest Center of the Central Nervous System. Clinical Cases. Atlas of Sections of the Brain.

PEELE—The Neuroanatomic Basis for Clinical Neurology

By TALMAGE L. PEELE, M.D., Duke University Medical Center. Second Edition.

660 *pp.*, 7¼ *x* 9⅞, 351 *illus.* (1961). $16.00*m*

A careful revision of the author's highly successful original work, this new edition incorporates much new information which explains the mysteries of the nervous system at both a lobar and cellular level. Almost every chapter has been rewritten extensively and numerous new illustrations added. Photographs of brain stem sections in three planes are included and the use of line sketches to indicate the location of these sections is intended to aid the student's understanding. Also application of basic structure and function information to clinical neurologic conditions is included to stimulate the student's interest and desire to learn a little more about neuroanatomy.

CONTENTS—Nerve Cells and Fibers. Neuroglia and Microglia—Neurohistologic Methods. Development of the Nervous System. Gross Anatomy of the Brain; Its Blood Supply and Meninges. The Spinal Cord and Spinal Pathways. The Peripheral Nerves. The Autonomic Nervous System. The Brain Stem. The Cranial Nerves. The Vestibular System. The Reticular System. The Cerebellum. The Thalamus. The Hypothalamus. Cortex and Fiber Systems of the Cerebral Hemispheres. The Precentral Cortex and Motor Pathways. The Extrapyramidal Motor System. The Prefrontal Region of the Frontal Lobes. The Sensory Pathways and the Parietal Cortex. Taste and Taste Pathways. The Visual Pathways and the Occipital Lobe. The Auditory Pathways and the Temporal Lobe. The Olfactory System. The Hippocampus and Limbic System. Atlas of Human Brain Stem Sections.

General and Comparative Physiology

CONSOLAZIO, JOHNSON, AND PECORA—Physiological Measurements of Metabolic Functions in Man

By C. FRANK CONSOLAZIO; ROBERT JOHNSON, Ph.D.; and LOUIS PECORA, Ph.D.

505 *pp.*, 6 *x* 9, 77 *illus.* (1963). . . . $14.50*m*

A complete collection of procedures used in the study of physiological responses and metabolic functions is contained in this most up-to-date book. The authors have included short discussions at the beginning of each section to cover procedures, physical performance, calorimetry, body composition, pulmonary function, and the effects of extreme environments. The theories, methods and applications are discussed in detail to assist research personnel working in the area of metabolic functions, especially in the simplification of the various calculations required by physiological measurements.

MAZIA AND TYLER—The Physiology of Cell Specialization

By DANIEL MAZIA, Univ. California, Berkeley, and ALBERT TYLER, California Institute of Technology. *Pub. in Biol. Sc.*

480 *pp.*, 6 *x* 9, 230 *illus.* (1963). . . . $13.50*r*

From a symposium held in 1962 concerned with the structural and functional specialization of cells. The primary emphasis in this wide-ranging book is on the nature of cell specialization rather than the mechanisms of differentiation. The distinguished contributors outline modern methods of exploration involved in a number of basic biological problems of current interest, including the modifications that a "generalized" cell may undergo as it assumes specific functions, pathological changes of cells, the extent to which chemical substances and cell modifications may be employed to solve similar functional problems, and other topics.

CONTENTS—*The Nature and Substratum of Specialization*—Seymour S. Cohen, R. G. E. Murray, William A. Jensen. *The Development of Specialization*—Claude A. Villee, Armin C. Braun, Howard Holtzer, Jean Andre, Bernard L. Strehler. *Properties of Specialized Cell Types*—Harry Eagle, William O. Weigle, R. R. A. Coombs. *Specialized Systems*—Roderic B. Park, R. C. Fuller, Roger Y. Stanier, H. E. Huxley, Manuel F. Morales, Harry Grundfest, Eugene Roberts and Kaoru Sano, Howard A. Bern, Frederick Crescitelli, Richard M. Eakin. Index.

MITCHELL—Textbook of General Physiology

By P. H. MITCHELL. *Pub. in Zool. Sc.* Fifth Edition.

885 *pp.*, 6 *x* 9, 200 *illus.* (1956). . . . $11.50*c*

Laboratory Manual of General Physiology (Mitchell and Taylor)

143 *pp.*, 6 *x* 9, *illus.* (1938). $3.95*c*

A modern textbook on general physiology discussing processes rather than the physiology of specialized organs and explaining clearly the relationship of electronic structure of matter, of the theory of chemical reactions, of the nature of colloidal phenomena, and of similar epoch-making discoveries of modern general science to the problems of living matter.

CONTENTS—Preface. Excitation and Inhibition. Physiology of Contraction. Functional Units of Nervous Systems: Neurones and Protoneurones. Reflexes and Tropisms. Correlating Action of the Nervous System. Receptors. Organic Constituents of Living Matter. Biological Significance of Water and Other Electrolytes. Physiological Significance of Hydrogen and Hydroxyl Ions. Surface Actions. The Colloidal State. Physio-chemical Structure of Living Matter. Diffusion and Osmosis, Osmotic Pressure. Permeability of Membranes and Living Cells. Synthetic Processes in Plants and Animals. Catalysis and Enzymes. Digestion. Chemistry of the Blood and Lymph. Circulation of the Blood. Respiration. Physiological Oxidations. Animal Heat Regulation. Intermediary Metabolism. Excretion. Nutritional Requirements. Chemical Regulation by the Internal Secretions. Index.

Human Physiology

HOUSSAY, et al.—Human Physiology

By BERNARDO A. HOUSSAY, M.D., JUAN T. LEWIS, M.D., OSCAR ORIAS, M.D., EDUARDO BRUAN MENÉNDEZ, M.D., ENRIQUE HUG,

M.D., VIRGILIO G. FOGLIA, M.D., and LUIS F. LE LOIR, M.D. Translated by JUAN T. LEWIS, M.D., and OLIVE T. LEWIS, M.D. Second Edition.

1190 *pp.*, 7¼ *x* 9⅞, 504 *illus.* (1955) $14.95*m*

Here is the second edition of an internationally acclaimed text that presents all the aspects of human physiology in both their chemical and physical relationships. Important additions to the second edition are new knowledge on blood clotting and anticoagulant factors, recent knowledge on nutrition, and new findings on carbohydrate metabolism. The authors have recast the chapters on electrical activity of the heart, on digestion, and on the nervous system.

CONTENTS—PART I. The Internal Environment and the Blood. PART II. The Circulation. PART III. Respiration. PART IV. Digestion. PART V. Metabolism and Nutrition. PART VI. Internal Secretions. PART VII. Reproduction. PART VIII. The Formation and Excretion of Urine. PART IX. The Nervous System.

LANGLEY—Outline of Physiology

By L. L. LANGLEY, Ph.D., LL.B., University of Alabama.

564 *pp.*, 6⅛ *x* 8⅛, 149 *illus.* (1961) $5.50*m*

This basic aid to the study of physiology presents the fundamental information necessary to an understanding of the field, and eliminates extensive details, argumentation and documentation which might be confusing to the beginning student. The topics of this work are presented in the usual arrangement following the body systems and the outline, yet each section and chapter is in itself complete, with the result that the work is equally adaptable to all physiology texts. Every effort has been made to include the latest material on physiology, including such topics as the Stop-Flow analysis of kidney function, and the Counter-Current Hypothesis of urine formation. There is also rather extensive mention of radioisotope techniques and of current endocrinologic knowledge. This work is unparalleled as a supplement to standard physiology texts, and will also be very useful as a one-semester college physiology text.

CONTENTS—PART I. ORIENTATION. 1. Basic Principles. 2. The Physiology of Cells. 3. The Physiology of Muscle. PART II. THE NERVOUS SYSTEM. 4. Propagation and Transmission. 5. Perception. 6. Perception: Vision. 7. Perception: Audition, Gustation, Olfaction. 8. Movement. 9. The Autonomic Nervous System. 10. The Centers of Coordination. PART III. THE CIRCULATORY SYSTEM. 11. The Blood. 12. Cardiac Dynamics. 13. Electrocardiography. 14. Cardiac Control. 15. Arterial Blood Pressure. 16. Venous Blood Pressure. 17. The Capillaries and the Lymphatic System. 18. Circulation through Special Regions. PART IV. THE RESPIRATORY SYSTEM. 19. The Mechanism of Breathing. 20. Transport of the Respiratory Gases. 21. The Control of Breathing. PART V. DIGESTION, METABOLISM, NUTRITION. 22. Digestion. 23. Metabolism. 24. Nutrition. PART VI. RENAL FUNCTION AND BODY FLUIDS. 25. Renal Function. 26. The Body Fluids. PART VII. ENDOCRINOLOGY AND REPRODUCTION. 27. The Thyroid Gland. 28. The Parathyroid Glands. 29. The Pancreas. 30. The Adrenal Glands. 31. The Gonads. 32. The Physiology of Reproduction. 33. The Hypophysis.

LANGLEY AND CHERASKIN—The Physiology of Man

By L. L. LANGLEY, M.A., Ph.D., and E. CHERASKIN, M.D., D.M.D., University of Alabama. Second Edition.

653 *pp.*, 6 *x* 9, 232 *illus.* (1958) $7.95*c*

Presents in simple language a comprehensive survey of human physiology. Although reference is made to animal experimentation and physiological mechanisms, the orientation is always to man. The basic theme is homeostasis, the phenomenon of self regulation whereby all physiologic processes are kept in exquisite balance. Chapters are designed to form separate units in logical succession, and at the end of each section there is an integrative chapter to tie the material together into a functional whole.

CONTENTS—Preface. ORIENTATION. Basic Physiological Principles. Cells and Tissues. Physiology of Muscle. THE NERVOUS SYSTEM. Perception. Movement. Special Functions: Vision. Special Functions: Audition, Olfaction, Gustation. The Autonomic Nervous System. The Cerebellum and Equilibration. Integration of the Nervous System. THE CIRCULATORY SYSTEM. The Blood. Cardiac Dynamics. Cardiac Control. Blood Pressure. Circulation through Special Organs. Integration of the Cardiovascular System. THE RESPIRATORY SYSTEM. The Mechanism of Breathing. The Control of Breathing. Transport of the Respiratory Gases. Integration of Respiration. THE ALIMENTARY AND EXCRETORY SYSTEMS. The Mouth. The Gastrointestinal Tract. Absorption and Utilization. Elimination. Integration: Nutrition and Diet. THE ENDOCRINE SYSTEM. The Thyroid and Parathyroid Glands. The Gonads. The Physiology of Reproduction. The Pancreas and Adrenal Glands. Integration of the Endocrine Glands: The Hypophysis. Index.

Embryology

NELSEN—Comparative Embryology of the Vertebrates

By OLIN E. NELSEN, University of Pennsylvania.

982 *pp.*, 2057 *drawings and photographs* (1953) $10.75*cd*

This text answers the demand for a really comprehensive approach to vertebrate development. It considers ontogeny in the vertebrates as an over-all sequential process with well-defined stages which vary in detail among classes, or even from species to species. The book is not just a comparison of a few forms, but of a great many. Six principal forms, amphioxus, shark, frog, chick, pig, human and many others, including some invertebrates, are discussed to give a true comparative study of vertebrates and their development.

CONTENTS—Orientation. PART I—The Period of Preparation. PART II—The Period of Fertilization. PART III—The Development of Primitive Embryonic Form. PART IV—Histogenesis and Morphogenesis of the Organ Systems. PART V—The Care of the Developing Embryo. Index.

PATTEN—Foundations of Embryology, 2nd Ed.

By BRADLEY M. PATTEN, formerly Univ. of Michigan. *Pub. in Zool. Sc.*

In Press

Familiarizes students with nature of basic developmental processes and acquaints them with language and problems of subjects. Processes are presented with emphasis on basic features characteristic of vertebrates as a whole, rather than on differences encountered in the various classes. Special emphasis laid on correlating embryonic structural features with recent advances in our knowledge of their functions. Excellent and abundant illustrations are an integral part of the text. In

this edition newly available information has been included and several new illustrations added.

PATTEN—Human Embryology

By BRADLEY M. PATTEN, Ph.D., formerly University of Michigan. Second Edition.

798 *pp.*, 6½ *x* 9⅛, 450 *illus.* (1953) $13.50*m**

Covers entire development of the embryo including material from research on the youngest embryos ever available.

CONTENTS—Introduction. Reproductive Organs; Gametogenesis. Sexual Cycle and Fertilization. Cleavage, Germal Layers, and Establishment of Embryonic Body. Early Differentiation of the Body and Establishing of Organ System. Fetal Membranes and Placenta. Age, Growth, and Changes in External Form of Body. Twins; Double Monsters and Teratology. Integumentary System. Connective Tissues and Skeletal System. The Muscular System. Development of the Nervous System. The Sense Organs. Development of the Face and Jaws and the Teeth. Development of the Digestive and Respiratory Systems. Body Cavities and Mensenteries. Ductless Glands and Pharyngeal Derivatives. Development of the Urogenital System. Development of the Circulatory System. Bibliography. Supplement to Bibliography 1945–1952. Index.

* *Not for sale in the United Kingdom and the British Commonwealth.*

PATTEN—Early Embryology of the Chick

By BRADLEY M. PATTEN, formerly University of Michigan. Fourth Edition.

244 *pp.*, 101 *illus.* (1951).....$5.50*c*

Development of the chick through the first four days of incubation, when the body of the embryo is laid down and the organ systems become well established. Instead of attempting to follow the development of several forms simultaneously a single form sustains the interest and concentration of the beginner in embryology.

CONTENTS—Preface. Acknowledgments. Introduction. The Gametes and Fertilization; The Process of Cleavage; Establishment of the Germ Layers and Formation of the Primitive Streak; From the Primitive Streak Stage to the Appearance of the Somites; Structure of Twenty-four-hour Chicks; Changes between Twenty-four and Thirty-three Hours of Incubation; Structure of Chicks between Thirty-three and Thirty-eight Hours of Incubation; Changes between Thirty-eight and Fifty Hours of Incubation; Extra-embryonic Membranes; Structure of Chicks from Fifty to Fifty-five Hours of Incubation; Development of the Chick during the Third and Fourth Days of Incubation; Bibliography; Index.

PATTEN—Embryology of the Pig

By BRADLEY M. PATTEN, formerly University of Michigan. Third Edition.

352 *pp.*, 6 *x* 9, 186 *illus.* (1948)....$5.75*c*

A clear picture of the fundamental facts and principles of development of the higher vertebrates is presented in this text. Emphasis is placed throughout on embryological phenomena rather than on details of specific conditions existing in the pig.

CONTENTS—The Reproductive Organs: Gametogenesis; The Sexual Cycle: Fertilization; The Process of Cleavage and the Formation and Early Differentiation of the Germ Layers; The Early Development of the Body Form and the Establishment of the Organ Systems; The Extra-embryonic Membranes and the Relation of the Embryo to the Uterus; The Structure of Embryos from Nine to Twelve Millimeters in Length; The Development of the Nervous System; the Development of the Digestive and Respiratory Systems and the Body Cavities; The Development of the Urogenital System; The Development of the Circulatory System; The Histogenesis of Bone and the Development of the Skeletal System; The Development of the Face and Jaws and the Teeth; Bibliography; Index.

RUGH—The Frog—Its Reproduction and Development

By ROBERTS RUGH, Columbia University.

336 *pp.*, 166 *illus.* (1951).....$5.95*c*

Since the frog has both aquatic and terrestrial stages of development, it serves as an ideal introductory experimental specimen for the study of embryology. The text contains a complete description of the normal growth of the frog illustrating the basic principles of development of the higher vertebrates.

CONTENTS—Preface. Introduction. General Introduction to the Embryology of the Leopard Frog, *Rana pipiens*. Reproductive System of the Adult Frog, *Rana pipiens*. Fertilization of the Frog's Egg. Cleavage. Blastulation. Gastrulation. Neurulation and Early Organogeny. A Survey of the Major Developmental Changes in the Early Embryo. A Survey of the Later Embryo or Larva. The Germ Layer Derivatives. The Endodermal Derivatives. The Mesodermal Derivatives. Appendix: Chronological Summary of Organ Anlagen Appearance of *Rana pipiens*. Glossary of Embryological Terms. Bibliography for Frog Embryology. Index.

Entomology

FERNALD AND SHEPARD—Applied Entomology

An Introductory Textbook of Insects in Their Relation to Man

By H. T. FERNALD; and HAROLD H. SHEPARD, U.S. Department of Agriculture. *Pub. in Agr. Sc.* Fifth Edition.

385 *pp.*, 6 *x* 9, *illus.* (1955).....$8.50*c*

Deals with the control of insect pests, particularly as related to agriculture, but is also written to provide an introduction to insect classification and other phases of general entomology. In this edition, greater emphasis is given to methods of application, precautions for use, and government regulation of insecticides.

CONTENTS—Preface. Relation of Insects to Other Animals. External Structure of Insects. Internal Structure and Physiology of Insects. Development of Insects. Economic Importance of Insects: Natural Control. Applied Control. Insecticides in General: Inorganic Insecticides. Organic Insecticides. Classification of Insects. Subclass Apterygota. Subclass Pterygota: Order Ephemerida. Order Odonata. Order Orthoptera. Order Plecoptera. Order Isoptera. Order Embioptera. Order Corrodentia. Order Zoraptera. Order Mallophaga. Order Thysanoptera. Order Anoplura. Order Hemiptera. Order Homoptera. Order Coleoptera. Order Strepsiptera. Order Neuroptera. Order Trichoptera. Order Lepidoptera. Order Mecoptera. Order Diptera. Order Siphonaptera. Order Hymenoptera. Animals Other than Insects. Index.

METCALF, FLINT, AND METCALF—Destructive and Useful Insects

By C. L. METCALF and W. P. FLINT, revised by ROBERT L. METCALF, University of California, Riverside. *Pub. in Agr. Sc.* Fourth Edition.

1099 *pp.*, 6 *x* 9, 630 *illus.* (1962)....$17.50*c*

This, the only complete textbook of entomology oriented around economic entomology, includes thorough discussions of the importance of insects; the morphology, physiology, and biochemistry of insects; the classification of insects; insect control; a complete description of all the chemicals used in insect control; the methods and equipment used for the application of the insecticides; and a discussion of more than four hundred of the most important insect pests of

North America from the standpoint of a) importance and type of injury, b) plant or animal attacked, c) distribution, d) life history, appearance and habits, and e) control measures. Thoroughly revised and updated, this standard text and reference book now contains at least ten per cent more material than before. Large sections have been completely rewritten, all tabular material has been revised, and new tables and illustrations added.
CONTENTS—Preface. Tables, Synopses, and Outlines. Insects as Enemies of Man. The Value of Insects to Man. The Morphology, Physiology, and Biochemistry of Insects. The Mouth Parts of Insects. Development and Metamorphosis. The Classification of Insects. Insect Control. The Application of Insecticides. Insects Injurious to Corn. Insects Injurious to Small Grains. Insects Injurious to Legumes. Cotton Insects. Tobacco Insects. Insects Injurious to Vegetable Gardens and Truck Crops. Insects Injurious to Deciduous Fruits and Bush Fruits. Citrus Insects. Insects Attacking Shade Trees and Shrubs. Insect Pests of Greenhouse Plants and the Flower Garden. Household Insects and Pests of Stored Grains, Seeds, and Cereal Products. Insects Injurious to Domestic Animals. Insects That Attack and Annoy Man and Affect His Health. Index.

GRAHAM—Principles of Forest Entomology
By SAMUEL A. GRAHAM, University of Michigan. *Amer. For. Series.* Third Edition.
351 *pp., illus.* (1952).....$8.50*c*
The subject of forest entomology is approached through a consideration of general underlying principles supplemented by a study of certain insect species carefully selected to illustrate how these principles apply in individual instances.
CONTENTS—Introduction. Historical Review. Detection and Appraisal. Reproductive Potential Environmental Resistance. Population Levels. Direct Control of Tree Insects. Direct Control by Chemical Methods. Insecticides and Their Effects. Methods of Indirect Control. Indirect Control by Parasites and Predators. Indirect Control by Silvicultural Practices. Leaf-eating Insects. Sap-sucking Insects. Meristematic Insects. Phloem Insects. Wood Destroyers.

SNODGRASS—Principles of Insect Morphology
By R. E. SNODGRASS, United States Department of Agriculture. *Pub. in Zool. Sc.*
667 *pp.*, 6 *x* 9, 319 *illus.* (1935)....$14.50*c*
Brings together a wealth of significant material covering insect morphology (including embryology and histology) and physiology. Special attention is given to structural relationships of insects and other arthropods, and the evolution of organs within the insect group. The illustrations are a feature of the book.
CONTENTS—General Organization and Development. The Body Wall and Its Derivatives. Body Regions, Sclerites, and Segmentation. The Segmental Appendages of Arthropods. The Head. The Head Appendages. The Thorax. The Thoracic Legs. The Wings. The Abdomen. The Organs of Ingestion. The Alimentary Canal. The Organs of Distribution. Conservation, and Elimination. The Respiratory System. The Nervous System. The Sense Organs. The Internal Organs of Reproduction. The Organs of Copulation and Oviposition.

STEINHAUS—Principles of Insect Pathology
By EDWARD A. STEINHAUS, University of California, Berkeley. *Pub. in Agr. Sc.*
757 *pp.*, 6 *x* 9 (1949).....$14.50*r*
Intended as both a text for college students and a reference for entomologists, agriculturists, and biologists. It is a treatment of a new and important field of entomology and biology. This book is the first in the field to cover both microbic and amicrobic diseases, deal with the principles of infection in insects, the epizootiology of the diseases, and analyze in detail specific insect diseases in this manner.
CONTENTS—Introduction. Mechanical, Physical, and Chemical Injuries. Diseases of Nutrition and Metabolism. The Extracellular Microbiota of Healthy Insects. Intracellular Microbiota. Infection and Epizootiology. Resistance and Immunity. Symptoms and Pathologies. Bacterial Infections. Fungous Infections. Virus Infections. Protozoan Infections. Nematode Infections. Applied Insect Pathology and Biological Control.

SHEPARD—The Chemistry and Action of Insecticides
By HAROLD H. SHEPARD, U.S. Department of Agriculture.
504 *pp.*, 6 *x* 9, 22 *illus.* (1951).....$11.50*r*
The first McGraw-Hill edition of an authoritative text and reference book already well known to entomologists and chemists. It is concerned with the properties of insecticides, not with the details of insect control. It includes the essential facts and theories regarding the chemical, physical, and toxicological aspects of insecticides, as well as their effects upon insects, plants, and higher animal life, including man.
CONTENTS—Preface. Introduction. Arsenical Compounds. Fluorine Compounds. Sulfur and Its Compounds. Copper Compounds. Miscellaneous Inorganic and Metal-organic Substances. Plant Products: Nicotine and Other Alkaloids. Pyrethrins, Rotenone, and Miscellaneous Plant Extractives. Petroleum. Animal and Vegetable Oils. Soaps, Creosotes. Synthetic Organic Insecticides—I. Synthetic Organic Insecticides—II. The Chemical Control of Insects: General Aspects. Relative Toxicity and Mode of Action of Insecticides Attractants and Repellents. Appendix. Index.

Bacteriology

Principles

CLIFTON—Introduction to the Bacteria
By C. E. CLIFTON, Stanford University. Second Edition.
558 *pp.*, 6 *x* 9, 188 *illus.* (1958).....$8.95*c*
Surveys the field of bacteriology in such a manner as to provide an introduction to descriptive bacteriology and also to the modern concepts of the how and the why of bacterial behavior. The treatment is as simple and as brief as is consistent with the development of a fundamental understanding of the bacteria and related forms of life. Unsettled problems, as well as the established ones, are presented from different viewpoints when possible to illustrate the dynamic nature of modern bacteriology. A fair amount of biochemistry is involved in the presentation since in recent years the application of biochemical principles to the study of bacteria has considerably enriched our understanding of these organisms.
CONTENTS—Preface. Introduction to the Bacteria. The Observation of Bacteria. The Structure of Bacteria. The Protozoa and Algae. The True Fungi. The Bacteria. The Viruses. Energetics, Metabolism, and Nutrition. Mechanisms of Microbial Respiration. Metabolic Groups of Bacteria. Growth Requirements of Bacteria. The Multiplication of Bacteria. Death of Bacteria. Microbial Variations. Bacteriology of Soil. Bacteriology of Water. Bacteria in the Air. The Preparation and Preservation of Food. Industrial Microbiology. Infection and Resistance. The Serological Reactions. The Enterobacteriaceae. Microbiology of Infectious Disease. Infectious Diseases of Animals and Plants. Appendix. Index.

PELCZAR AND REID—Microbiology

By MICHAEL J. PELCZAR, University of Maryland, and ROGER D. REID, Office of Naval Research, Washington, D.C.

564 *pp.*, 7¼ *x* 9⅞ (1958).....$8.95*c*

Laboratory Exercises (1958).....$3.00*c*

The purpose of this book is to introduce the student to the world of microorganisms—what they are, what they look like, what they do, and how they can be controlled or exploited to the advantage of mankind. About one-half of the book is devoted to fundamentals of microbiology; the remainder is concerned with the practical applications of microbiology in the "everyday" environments of man.

CONTENTS—An Introduction to Microbiology. A Survey of Microbial Life. The History of Microbiology. Characteristics of Bacteria. Nomenclature and Classification. The Microscope and Microscopic Methods. Bacterial Morphology. The Cultivation of Bacteria. Reproduction and Growth. Pure Cultures and Growth Characteristics. Enzymes. Chemical Changes Produced by Bacteria. Modifications, Mutations, and Genetics. The Orders of Bacteria. Microorganisms Other than Bacteria. The Molds. The Yeasts. The Rickettsiae. The Protozoa. The Algae. Control of Microorganisms. The Control of Microbial Populations. Control by Physical Conditions. Control by Chemical Agents. Antibiotics and Chemotherapeutic Agents. Microorganisms and Disease. Pathogens, Virulence, and Infection. Resistance and Immunity. Serological and Diagnostic Methods. Air-borne Infections of Man. Food- and Water-borne Infections of Man. Contact Diseases of Man. Infectious Diseases of Animals. Diseases of Plants. Applied Microbiology. Microbiology of Water. Microbiology of Sewage. Microbiology of Air. Microbiology of Milk. Microbiology of Food. Soil Microbiology. Industrial Microbiology. Microorganisms in Unusual Roles. Appendices. A. Outline of Bacterial Classification and Characteristics of Selected Genera. B. Staining Reagents and Procedures. C. Some Microbiological Media. Glossary. Index.

ROSEBURY—Microorganisms Indigenous to Man

By THEODOR ROSEBURY, Washington University.

435 *pp.*, 6 *x* 9, 32 *illus.* (1962)....$15.00*m*

Dr. Rosebury's work on microorganisms is the first book of its kind to treat this subject as an organic unit. The lesser pathogens that have often received negligent or sometimes inaccurate treatment in medical textbooks are covered more thoroughly in this new work. This book deals with the more neglected microorganisms of medical importance, information on which was not available in a text in the past. Of particular interest are the reviews of antibodies to members of the normal flora, germfree animal research, and microbic interactions. The chapters on indigenous fungi and protozoa are the first on these topics to present a total evaluation, and the chapter on protozoa is noteworthy because of their relationship to personal and public hygiene.

CONTENTS—1. Introduction: Certain General Principles. 2. The Indigenous Cocci. 3. Indigenous Gram-positive Bacilli. 4. Indigenous Aerobic Gram-negative Bacilli. 5. Bacteroides, Fusobacterium, and the Motile Anaerobes. 6. The Indigenous Spirochetes. 7. Indigenous Fungi. 8. The Indigenous Protozoa. 9. Pleuropneumonia-like Organisms, Spheroplasts, and Protoplasts. 10. Distribution and Development of the Microbiota of Man. 11. Nonpathogenic Activities of the Normal Flora.

SALLE—Fundamental Principles of Bacteriology

By A. J. SALLE, University of California, Los Angeles. Fifth Edition.

812 *pp.*, 6 *x* 9, 338 *illus.* (1961)....$11.00*c*

Laboratory Manual on Fundamental Principles of Bacteriology. Fifth Edition..$3.50*c*

This text provides the beginner with a solid foundation in the principles of bacteriology and prepares him for more advanced study of the subject. Wherever possible, phenomena are explained. The text emphasizes the use of chemistry for a clearer understanding of the composition of bacteria and the reactions they produce. This book has been thoroughly revised and completely rewritten to reflect the latest thinking and most recent developments in the field. Many new illustrations have been added, all chapters have been revised and updated, and one new chapter on Bacterial Genetics has been appended.

CONTENTS—Preface. Introduction. The Microscope. Dyes and Staining Solutions. Morphology of Bacteria. Yeasts. Molds. Nutrition of Bacteria. Sterilization. Technique of Pure Cultures. Effect of Environment upon Bacteria. Enzymes of Bacteria. Hydrolysis and Putrefaction of Proteins. Fermentation of Carbohydrates and Other Compounds. Differentiation and Classification of Bacteria. Bacterial Genetics. Associations of Bacteria. Disinfection and Disinfectants. Bacteriology of Air. Bacteriology of Water. Bacteriology of Milk and Milk Products. Bacteriology of Food. Bacteriology of Soil. Infection and Immunity. Bacterial Diseases of Man. Bacterial Viruses. Bacterial and Viral Diseases of Plants. Viral Diseases of Man. Rickettsial Diseases of Man. Index.

YOUNG—Witton's Microbiology

Rewritten and Revised by GENEVIEVE GRAY YOUNG, Ph.D., Boston University. Third Edition.

586 *pp.*, 6 *x* 9, 228 *illus.* (1961).....$8.00*n*

Laboratory Manual (1962).....$3.25*n*

Revised and rewritten by Dr. Young, this textbook covers the relations between microorganisms and the human body in health and disease. Basic biological principles are stressed throughout the book, but examples are drawn almost entirely from the areas of health and medicine. The aim of the book is to give the student a clear understanding of the principles of microbiology and immunology, illustrated by numerous examples to show the way these principles are applied to the solution of practical problems related to human health. The extensive changes in the new edition contain more material on "cold" or gaseous, sterilization which is being used much more extensively than in the past. The entire section on control of microorganisms has been rewritten in the light of the increase in staphylococcal infections.

CONTENTS—The Basic Structure and Activities of Microorganisms. The Control of Microorganisms. Sources and Modes of Infection. Infection and Immunity. Introduction to the Study of Pathogens. The Pathogenic Bacteria. Pathogenic Organisms Other than Bacteria.

MARSHALL—Laboratory Guide in Elementary Microbiology

By M. S. MARSHALL, University of California, Berkeley. Second Edition.

248 *pp.* (1951).....$3.75*c*

Presents experiments in such a way that analysis, thought, and interpretation take precedence over mere performance. The experiments are divided into six sections. Each experiment and each section is introduced and concluded with material designed to orient the student to the problems and to help him in his analysis of the subject.

CONTENTS—Introduction. Introductory Technic. Morphology. Physiology of Bacteria. Applied Bacteriology. Serology. Infection. Appendix. Index.

Bacterial Physiology

CLIFTON—Introduction to Bacterial Physiology

By C. E. CLIFTON, Stanford University.

430 *pp.*, 6 *x* 9, *illus.* (1957).....$9.50*c*

Designed for students who have had organic chemistry and a course in general bacteriology, this introduction to bacterial physiology provides the student with an idea of the evolution of various concepts. Brief descriptions of some of the general methods employed in the study of bacterial physiology are also included. The approach is from both the biological and the chemical viewpoints regarding the nature and behavior of bacteria.

CONTENTS—Preface. Introduction. Energy, Kinetics and Equilibria. Surface Chemistry. The Bacterial Cell. Enzymes. Biological Oxidation. Alcoholic Fermentation. Bacterial Fermentations. The Metabolism of Nitrogenous Compounds. Aerobic Respiration. Autotrophic Bacteria. Nutrition of Bacteria. Growth of Bacteria. Death of Bacteria. Adaptation and Variation. Physiological Aspects of Infection. The Bacteriophage. Chemotherapeutic Agents.

Industrial Microbiology

PRESCOTT AND DUNN—Industrial Microbiology

By SAMUEL CATE PRESCOTT, formerly MIT. Revised by CECIL GORDON DUNN, Massachusetts Institute of Technology. Third Edition.

945 *pp.*, 6 *x* 9, 157 *illus.* (1959)....$17.50*c*

Outlines, in a concise yet comprehensive manner, the fundamentals of industrial microbiology and describes the more important processes within the field. Methods of cultivating the microorganisms are emphasized. The book contains numerous illustrations; several excellent flowsheets, and a large number of comprehensive tables which summarize information.

CONTENTS—Preface. Introduction. The Yeasts. The Propagation of Yeast. The Production of Industrial Alcohol by Fermentation. Facts and Theories Concerning the Mechanism of Ethyl Alcohol Fermentation. Brewing. Wine. The Distilling Industries. The Glycerol Fermentation. Vitamin Production by Yeasts and Yeast-like Microorganisms. Yeast Enzymes and Minor Products. The Bacteria. The Acetone-butanol Fermentation. The Butanol-isopropanol Fermentation. The Acetone-ethanol Fermentation. The Lactic Acid Bacteria. The Production of Lactic Acid by Fermentation. Sauerkraut. Pickles. Dextrans. Cheese. The Production and Properties of 2,3-Butanediol. The Acetic Acid Bacteria and Some of Their Biochemical Activities. The Propionic Acid Fermentation. The Production of Vitamin B_{12}. Some Minor Bacterial Activities with Industrial Implications. The Molds. The Citric Acid Fermentation. The Gluconic Acid Fermentation. The Itaconic Acid Fermentation. The Kojic Acid Fermentation. Gibberellic Acid and the Gibberellins. The Fumaric Acid Fermentation. The Production of Lactic Acid by Molds. The Gallic Acid Fermentation. Ustilagic Acid. Some Other Acids Produced by Molds. Mannitol Production by Molds. Production of Mushroom Mycelium by the Submerged Culture Process. The Production of Fat by Molds. Mold Enzyme Preparations: Uses and Products. Some Minor Chemical Activities of the Lower Fungi. The Production of Amino Acids by Microorganisms. The Microbiological Transformation of Steroids. Antibiotics. Saccharifying Agents: Methods of Production and Uses. Some Biochemical Engineering Aspects of Fermentation.

Food Microbiology

FRAZIER—Food Microbiology

By WILLIAM C. FRAZIER, University of Wisconsin.

472 *pp.*, 6 *x* 9 (1958).....$9.95*c*

Covers the developments of the last 13 years, including nearly every phase of food microbiology. Instead of listing the results of thousands of investigators along with references to their work, the author has summarized and digested the material for the reader, giving what is considered to be the present belief on controversial subjects. Principles are emphasized and usually only a few illustrative examples are selected from the many available. Food technology is discussed only to the extent considered necessary for an understanding of the microbiology of the foods.

CONTENTS—Preface. MICROORGANISMS IMPORTANT IN FOOD MICROBIOLOGY. Molds. Yeasts and Yeast-Like Fungi. Bacteria. Contamination of Foods from Natural Sources. Contamination of Foods during Handling and Processing. PRESERVATION OF FOODS. General Principles of Food Preservation—Asepsis, Removal, Anaerobic Conditions. Preservation by Use of High Temperatures. Preservation by Use of Low Temperatures. Preservation by Drying. Preservation by Preservatives. Preservation by Radiations and by Pressure. Preservation of Cereals, Sugars, Vegetables, and Their Products. Preservation of Fruits and Fruit Products. Preservation of Meats and Seafood. Preservation of Eggs and Poultry. Preservation of Milk and Milk Products. SPOILAGE OF FOODS. General Principles Underlying Spoilage. Spoilage of Cereals and Cereal Products. Spoilage of Sugars and Sugar Products. Spoilage of Vegetables and Fruits. Spoilage of Meats and Meat Products. Spoilage of Fish and Other Seafood. Spoilage of Eggs and Poultry. Spoilage of Milk and Milk Products. Spoilage of Miscellaneous Foods. Spoilage of Heated Canned Foods. FOODS AND ENZYMES PRODUCED BY MICROORGANISMS. Production of Cultures for Food Fermentations. Food Fermentations. Foods and Enzymes from Microorganisms. FOODS IN RELATION TO DISEASE. Food Poisonings and Infections. Investigation of Food-borne Disease Outbreaks. FOOD SANITATION, CONTROL AND INSPECTION. Microbiology in Food Plant Sanitation. Microbiological Laboratory Methods. Food Control. Appendix—Microbiological Standards. Index.

Technic

AMERICAN SOCIETY OF MICROBIOLOGISTS—Manual of Microbiological Methods

By the Committee on Bacteriological Technic, *Society of American Bacteriologists*, M. J. PELCZAR, Chairman and H. J. CONN, Editor.

305 *pp.*, 6 *x* 9, *illus.* (1957).....$5.50*r*

This manual is intended for use in those types of microbiological work which involve the study of microbial cultures or of viruses, either for identification or for learning the properties of the organisms investigated. This book takes the place of the loose-leaf publication issued during the period of 1923–1956 under the name of "Manual of Methods for Pure Culture Study of Bacteria."

CONTENTS—Preface. Introductory. Staining Methods by H. J. Conn, J. W. Bartholomew, and M. W. Jennison. Preparation of Media. The Measurement of pH, Titratable Acidity, and Oxidation-reduction Potentials by Barnett Cohen. Maintenance and Preservation of Cultures by Freeman A. Weiss. The Study of Obligately Anaerobic Bacteria. Routine Tests for the Descriptive Chart by H. J. Conn, M. W. Jennison, and O. B. Weeks. Physiological and Biochemical Technics by R. D. DeMoss and R. C. Bard. Serological Methods by E. Edward Evans. The Detection of Bacterial Pathogenicity by Joel Warren. Virological Methods by Albert P. McKee. Inoculations with Bacteria Causing Plant Disease by A. J. Riker. Glossary of Terms Used on the Charts and in the Manual. Index.

Health and Safety

McGRAW-HILL SERIES IN HEALTH EDUCATION, PHYSICAL EDUCATION, AND RECREATION

(Series in Health Educ., Phys. Educ. & Rec.)

Clifford Lee Brownell, Consulting Editor
Teacher's College, Columbia University

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Lawrence and Fox—Basketball for Girls and Women
Metheny—Body Dynamics
Torney—Swimming

Health Principles

DAVIS AND SOUTHWORTH—Meredith's Hygiene

Revised by ARTHUR DAVIS, Pennsylvania State College, and WARREN H. SOUTHWORTH, University of Wisconsin. Fifth Edition.

906 *pp., illus.* (1954).....$7.50*c*

The authors, both widely known as successful teachers and highly respected in their field, have made extensive revisions in this new fifth edition. By rewriting ten chapters and bringing the remainder of the contents up-to-date, Drs. Davis and Southworth have greatly expanded the scope of this very excellent text. The aim of the book is to aid the student from the start to see the whole field of health as a unit and to evaluate its various separate fields. There is enough anatomy and physiology included to give a background of the structure and function of the human body.

CONTENTS—Foreword. Preface. Acknowledgements. Introduction. The Body in Health and Disease. Forces for Health. The Problem of Infection. Some Major Health Problems. First Aid in Injury and Illness. The Hygiene of Everyday Life. Familial Hygiene. Mental Health.

DIEHL—Textbook of Healthful Living, 7th Ed.

By HAROLD S. DIEHL, M.D., American Cancer Society.

In Press

Correlated Text-Film Series—seven motion pictures (b&w).....$725.00

The author retains the medical and statistical orientation toward health education in this revised edition. All chapters contain updated charts, graphs, and tables which convey important statistical trends in health education. Most anatomical artwork has been redrawn for greater accuracy, and the Demarest Human Body Insert is included in color in the appendix. Included in the book: end-of-chapter questions; revised glossary; personal health chart; new table of food values; Communicable Disease Glossary.

DIEHL—Elements of Healthful Living

By HAROLD S. DIEHL. Third Edition.

357 *pp., 6 x 9, illus.* (1955).....$5.95*c*

Abridgement of the author's *Textbook of Healthful Living* designed for a shorter course.

CONTENTS—The Importance and the Possibilities of Better Health. Our Major Health Problems. Mental Health. Nutrition and Growth. The Choice of Foods. Digestive Disturbances. Stimulants and Narcotics. Exercise—Fatigue—Rest. Specific Disease Prevention. Care of the Nose, Throat, Ears, and Teeth. The Conservation of Vision. Care of the Skin and Hair. Sex Life. Modern Parenthood. Health Problems of Advancing Years. Choosing a Health Adviser. Community Health. Appendixes. Index.

JOHNS, SUTTON, AND WEBSTER—Health for Effective Living

A Basic Health Science Text for College Students

By EDWARD B. JOHNS, WILFRED C. SUTTON, both of the University of California, Los Angeles; and LLOYD E. WEBSTER, Director, Health Education, Los Angeles County Schools. Third Edition.

560 *pp., 6⅞ x 9¼, 255 illus.* (1962)..$6.95*c*

Correlated Text-Film Series—five motion pictures (b&w).....$595.00

This text is written by college health educations following psychological, sociological, and educational principles in order to provide college students with meaningful scientific health material that can be applied to their own lives. The material in the book is concerned with the individual college student as he lives in his college environment and with the community in which he will become a citizen. It is organized to integrate personal and social responsibilities rather than devoting half of the discussion to individual health aspects and the other half to community health problems. The subject matter cuts across all phases of campus and family life as well as the major domestic and international health problems. Third edition features: new chapter on "Health in the Space Age"; more illustrations; improved presentation of anatomical charts; enlarged glossary; new tables.

CONTENTS—Orientation in Health Education. PART I. DEVELOPING A HEALTHY PERSONALITY: Appraising Mental Health. Making Life Adjustments. PART II. PREPARING FOR EFFECTIVE FAMILY LIVING: Choosing a Life Partner. Planning for Marriage. Preparing for Responsibilities of Parenthood. PART III. DEVELOPING AND MAINTAINING HEALTH: Maintaining a Healthy and Attractive Body. Utilizing Opportunities for Rest and Recreation. Selecting and Eating Wholesome Foods. Selecting Health Products and Services. PART IV. BUILDING DEFENSES FOR EFFECTIVE LIVING: Preventing and Controlling Communicable Disease. Understanding Chronic and Degenerative Diseases. Understanding Depressants and Stimulants. Living Safely in Our Time. PART V. EFFECTIVE LIVING IN THE COMMUNITY: Participating in the Community Health Program. Solving International Health Problems. Health in Space.

SOUTHWORTH AND DAVIS—Meredith's Science of Health

By WARREN H. SOUTHWORTH, University of Wisconsin, and ARTHUR F. DAVIS, Pennsylvania State University. Third Edition.

450 *pp., 6 x 9, 148 illus.* (1957)....$6.50*c*

This text was written with a minimum of technical language and contains some information on the structure and function of the human body as a basis for a better understanding and interpretation of related hygienic principles.

CONTENTS—Preface. Acknowledgments. INTRODUCING THE SCIENCE OF HEALTH. Surveying Our National

Health Situation. Enumerating the Forces for Health. MAINTAINING DAILY HEALTH. Knowing the Body Itself. Keeping the Circulation Good. Building Nutritional Health. Doing Work. Restoring Energy. Regulating Body Temperature. Caring for Special Organs. COPING WITH SOME HEALTH HAZARDS. Meeting Some Modern Emergencies. Avoiding Self-medication. Cults, and Quackery. Understanding the Habit-forming Substances. Preventing Invasion by Germs. FACING SOME MAJOR HEALTH PROBLEMS. Controlling the Communicable Diseases. Controlling the Communicable Diseases (*continued*). Curbing Some of the Chronic Diseases. Living Safety. PROMOTING MENTAL HEALTH. Advancing the Health of Brain and Nerves. Developing a Healthy Personality. Guiding the Self Impulse. Guiding the Social Impulse. Guiding the Sex Impulse. CONSIDERING THE NEXT GENERATION. Reviewing Reproduction. Explaining Heredity and Eugenics. Looking toward Parenthood. Bibliography. Index.

STILES—Individual and Community Health

By WILLIAM W. STILES, University of California, Berkeley.

492 *pp.*, 32 *tables*, 134 *figures* (1953) . $6.95*c*

Stresses the interrelationships of personal and community health and covers such timely material as: biological warfare, the medical aspects of atomic energy, nerve gases, fluoridation of water, Q-fever, histoplasmosis, the control of air-borne infections, and the health problems involved in civil defense preparedness. Throughout the text emphasis is placed on the importance of the individual in the overall community health program.

CONTENTS—An Introduction to Individual and Community Health; Accidents and Violence; Wound Infections; Contact and Air-borne Diseases; General Measures of Disease Control; Disorders of Nutrition, Digestion, and Metabolism; Food Sanitation, Fecal-borne Diseases; Water, Sewage, and Flies; Arthropod-borne Diseases; Animal-borne Diseases; Environmental and Occupational Diseases; Socio-sexual Problems; Maternal and Child Care; Disorders of the Nervous System; Problems Relating to Medical Care; The Challenge to Control Disease.

Health for High School

DIEHL, LATON, AND VAUGHN—Health and Safety for You

By HAROLD S. DIEHL, American Cancer Society, ANITA D. LATON, San Jose State College, California, and FRANKLIN C. VAUGHN, Denver Public Schools. Second Edition.

531 *pp.*, 6⅜ *x* 9¼, 412 *illus.* (1961) . . $5.60*s*

Current Health Topics. Families and Children (1955) . . . . . $.80

Correlated Text-Film Series—five motion pictures $340.00

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Completely rewritten and reorganized, the Second Edition provides 33 chapters, divided into eight units. It offers eight new chapters on mental health and personality development that stress the interrelationship of emotional and physical health. It includes four new chapters on safety which present the latest information on safety at home, safety in school, safety on the highway, and safety at work. The book's organization and content are designed to lead to desirable action in the field of health and safety. It presents information about the human body so that young people may understand the personal and social benefits to be derived from good practices in health and safety. There is emphasis on the social and economic factors related to the use of alcohol and narcotics, along with the physical and mental effects. Throughout, the book arms the student with the facts and with knowledge of how to use the facts to arrive at intelligent decisions.

UNIT HEADINGS—Teenagers—from Twelve to Twenty. Building Sound Mental Health. Developing Your Personality. Some Common Problems. Your Body's Supply System. Dynamic Living. Safety First. Health and the World Around You.

Personal Health

DIEHL—Healthful Living

By HAROLD S. DIEHL, American Cancer Society. Fourth Revised Edition.

550 *pp.*, 6 *x* 9, *illus.* (1955) $8.50*td*

A common sense book on general health that tells the average person everything he wants to know about healthful living from diet and weight control to mental health and care of the common cold, this is a competent, up-to-date, and reliable guide to personal hygiene and physical fitness. Subjects covered include weight and its control, dietary dangers, stimulants and narcotics, specific disease prevention, colds and influenza, conservation of teeth and vision, care of skin and hair, health problems of advancing years, choosing a health adviser. The book contains appendixes—weight tables, nutrition charts, etc.—and a personal health record, glossary of medical terms, detailed index. It is an excellent reference and guide for the home by a recognized authority on health.

JACOBSON—How to Relax and Have Your Baby

Scientific Relaxation in Childbirth

By EDMUND JACOBSON, M. D.

194 *pp.*, 5⅜ *x* 8, 40 *illus.* (1959) $3.95*t*

In this informative and practical guide for expectant mothers, Dr. Jacobson applies his well-known method of relaxation to pregnancy and childbirth. Using case-history narratives, complete instructions and dramatic illustrations, he tells how to develop the easy skill of progressive relaxation step-by-step. *How to Relax and Have Your Baby* is an invaluable help in achieving painless childbirth and comfort during pregnancy and after.

THOMS, ROTH, AND LINTON—Understanding Natural Childbirth

A Book for the Expectant Mother

By HERBERT THOMS, in collaboration with LAURENCE G. ROTH. Picture Story by DAVID LINTON.

176 *pp.*, 6⅞ *x* 9⅞, *illus.* (1950) $4.95*td*

Countless questions relating to every phase of pregnancy, labor, and post-pregnancy under the Natural Childbirth Program are fully and clearly answered in this book written by two outstanding medical authorities. A complete picture story of an actual mother's participation in the Natural Childbirth Program is included. This is a comprehensive guidebook for pregnancy.

School Health

WHEATLEY AND HALLOCK—Health Observation of School Children

By GEORGE M. WHEATLEY, M.D., M.P.H., Metropolitan Life Insurance Company, and GRACE T. HALLOCK. Illustrated by BARBARA PFEIFFER. Second Edition.

447 *pp.*, 6 *x* 9, 111 *illus.* (16 in color) (1956) $9.00*n*

Written especially for the teacher, to help her to quickly spot disorders and physical defects

among her pupils, and to guide her in her responsibility of helping each child realize his full potentialities for good health. The second edition incorporates many new developments in the field, including a new Immunization Timetable, summary of a recent pilot study on accident-proneness, new method of artificial respiration, results of long-term experiments on the effectiveness of water fluoridation in the control of dental cavities, latest recommendations for frostbite treatment and for removing a foreign body from the eye.

CONTENTS—Seeing the Child as a Whole. The Growing Child. Thoughts and Feelings. Actions and Reactions. What to Know about the Heart, Blood, and Lymph. On the Air Route. Along the Alimentary Route. The Body's Envelope. Stop! Look and Listen. On Growing Straight.

Health Education

WILLGOOSE—Evaluation in Health Education and Physical Education

By CARL E. WILLGOOSE, Boston University. *Series in Health Educ., Phys. Educ., & Rec.*

496 *pp.*, 6 *x* 9, 101 *illus.* (1961).....$7.50*c*

This vibrant text provides the male or female student with a thorough background and understanding of test and measurements as applied to health education and physical education. It aids the undergraduate major acquire skill in the appraisal of health status, physical fitness, posture, social efficiency, health knowledge and attitudes, individual differences, body build, sport skills, motor intelligence, and elementary statistics.

CONTENTS—The Nature of Measurement and Evaluation. Aims and Objectives of Education. The Criteria of Proper Measures. Evaluating the School Health Program. Measures of Health Knowledge, Attitudes and Habits. Measures of Physical Fitness—Cardiovascular Tests. Measures of Physical Fitness—Strength and Endurance Tests. Measures of Physical Fitness—Motor Performance Tests. Measures of Posture and Body Mechanics. Tests of Skill and Achievement. Tests as Measures of General Motor Ability and Motor Intelligence. Tests of Knowledge in Physical Education. The Measurement of Body Physique. Classification Measures. Measurement of Social Efficiency. Use of Tests in Meeting Individual Needs. Administration of Evaluation Programs. Scoring Table (29 each).

Immunology

CUSHING AND CAMPBELL—Principles of Immunology

By JOHN E. CUSHING, University of California, Santa Barbara, and DAN H. CAMPBELL, California Institute of Technology.

344 *pp.*, 6 *x* 9, 32 *illus.* (1957).....$8.95*c*

This book is directed to the biology student in an attempt to give him the general background that will enable him to study the relationships of immunologic phenomena to other biological problems.

CONTENTS—INTRODUCTORY SURVEY. A General Survey of Some Fundamental Principles of Immunology. BIOLOGICAL IMMUNOLOGY. The Genetic Control of Antigenic Structure. The Population Genetics of Antigens. Antigens and Evolutionary Studies. Antigenic Individuality. Specifically Interacting Substances Involved in Fertilization. The Embryonic Development of Antigens and of the Immune Mechanism. Immunology and the Mechanism of Differentiation During Individual Development. Natural Antibodies and Hemagglutinins. Immunity in the Absence of Antibodies. The Antigenic Variation of Microorganisms. Comparative Immunology. THE NATURE OF ANTIGENS, ANTIBODIES, AND THEIR REACTIONS. The Nature of Antigens. The Nature of Antibodies. Manifestations of Antigen-Antibody Reactions. Mechanisms Which Control the Specificity of Immunological Reactions. Index.

Industrial Health and Safety

DRINKER AND HATCH—Industrial Dust

By PHILIP DRINKER and THEODORE HATCH. Second Edition.

371 *pp.*, 6 *x* 9, 157 *illus.* (1954)....$11.00*m*

A presentation and critical discussion of dust control in relation to the health of workmen. The work is divided into three major aspects: (1) the physical substances composing dust and fume suspensions, and their effects upon man; (2) the analysis, measurement, and microscopy of fine dusts; and (3) the practical control of dusts and the use of respiratory protective devices.

CONTENTS—Physical Properties of Dust, Fumes, and Mist. Effects of Dusts and Fumes upon Man. Inert and Toxic Dusts. Physical and Chemical Factors in Pneumoconiosis. Dust Retention by Man. The Dusty Trades. Appraisal of Dustiness. Determination of Dust Concentration. Determination of Dust Concentration (Continued). Determination of Particle Size. Chemical and Mineralogical Analysis of Dust. Methods for the Control of Industrial Dust. Design of Local Exhaust Systems. Air Cleaning. Air Cleaning by Filtering. Scrubbing and Electrical Precipitation. Dust Respirators and Air Masks.

HEINRICH—Industrial Accident Prevention

By H. W. HEINRICH, Travelers Insurance Company. Fourth Edition.

480 *pp.*, 6 *x* 9, 136 *illus.* (1959).....$9.50*c*

Clearly shows what accident prevention is, what it accomplishes, and how it is accomplished. Using factual cases and data, it shows step by step how to analyze the accident situation in a particular plant, how to find the causes, how to develop the remedies, and how to carry them out. Gives special emphasis to the human factor in safety work and how to deal with it to make preventive measures effective. Includes information on motor vehicle fleets, the 4-step formula for supervision, personal protective devices, and a short form safety course.

CONTENTS—Principles of Accident Prevention. Basic Philosophy of Accident Prevention. A Skeletal Diagram. Facts and Fact Finding. Accident Analysis. Selection of Remedy. Application of Remedy—Corrective Action. Creating and Maintaining Interest. Safety Psychology. Education. Formula for Supervision. Safety Organization. Machine, Prime-mover, and Power-transmission Guarding. Personal Protective Devices. Process and Procedure Revision. Occupational Disease. Nucleonics. Illumination and Vision. Motor Vehicles. Small Plant Safety Programs. Fire Prevention. Accident Statistics. Summary. Appendixes: Chronology of Industrial Accident Prevention. Background of Industrial Safety. Standards for Mechanical Guarding. Specific Recommended Values of Illumination. Causes of Compensated Accidents. Fatigue. First Aid and Hospital. Bibliography. Index.

SATALOFF—Industrial Deafness

By JOSEPH SATALOFF, M.D., D.Sc. (Med).

350 *pp.*, 6 *x* 9, 75 *illus.* (1956)....$10.00*m*

A fundamental reference book in industrial noise and deafness, intended for otologists, industrial physicians, compensation lawyers, insurance executives, referees, judges, safety engineers, chambers of commerce, industrial nurses and hygienists, labor union leaders, and all others concerned with industrial medicine. In this book all phases of industrial deafness are treated in a single volume for use by those who have no scientific knowledge about noise- and hearing-measurement. Section I deals with the physics of sound, anatomy of the ear, causes of deafness, medicolegal aspects, and basic problems in the conservation of hearing; Section II tells how to measure noise; Section III tells how to measure hearing, how to keep records, and how to organize a conservation-of-hearing program.

Aviation Health and Safety

AERO MEDICAL ASSOCIATION—Aviation Toxicology

An Introduction to the Subject and a Handbook of Data

Prepared under the direction of the COMMITTEE ON AVIATION TOXICOLOGY, AERO MEDICAL ASSOCIATION.

120 *pp.*, 5½ *x* 8⅜, 17 *tables*, 7 *figs.* (1953) $5.00*m*

CONTENTS—PART I. General Features of the Problems of Aviation Toxicology—Introduction to the problems; Allowable degree of bodily impairment in airmen performing their duties; Duration and intensity of exposure. Effects of high altitude on toxicity. Methods for expressing gaseous concentrations in relation to altitudes. PART II. Specific Problems of Aviation Toxicology—Antifreezing agents. Exhaust gases and smoke. Fire extinguishants. Hydraulic fluids. Propellants. Refrigerants. Insecticides. Transportation of toxic materials by air. Miscellaneous problems in aviation toxicology. Toxicity problems in manufacture and repair. PART III. Chemicals Important in Aviation Toxicology—Carbon monoxide. Carbon dioxide. Gasoline. Major classes of organic compounds (alcohols, aldehydes, and ketones, glycols and glycol ethers, aromatic and other cyclic hydrocarbons, halogenated hydrocarbons, miscellaneous classes of organic compounds). Inorganic compounds. APPENDIX I. Time-concentration Curves of Toxicity. APPENDIX II. Calculation of the Concentration of Carboxyhemaglobin in the Blood Stream at High Altitude. APPENDIX III. Toxicity Data for Individual Compounds. References. Index to Chemicals.

McFARLAND—Human Factors in Air Transportation: Occupational Health and Safety

By Ross A. McFARLAND, Ph.D., Harvard School of Public Health.

830 *pp.*, 7¼ *x* 9⅞, 151 *illus.* (1952) $14.95*m*

This timely and significant book is a direct outgrowth of the author's interest in aviation and industrial medicine during the past twenty years.

CONTENTS—Foreword. Preface. PART I. INTRODUCTION. Nature and Extent of Airline Operations. PART II. SELECTION AND TRAINING OF FLIGHT PERSONNEL. Psychological Factors in the Selection of Airmen. Role of the Physical Examination in Selection. Indoctrination and Training of Flight Crews. PART III. MAINTENANCE OF HEALTH AND EFFICIENCY OF FLIGHT PERSONNEL. Periodic Health Examination for Airmen. Maintenance of Physical and Psychological Fitness in Air Crews. Operational Aspects of Fatigue. Aging and Efficiency in Airmen. PART IV. SELECTION, PLACEMENT, AND HEALTH OF GROUND PERSONNEL. Selection and Placement of Ground Personnel. Maintenance of Health of the Ground Personnel. PART V. SAFETY, ON THE GROUND AND IN FLIGHT. Prevention of Industrial Accidents in Ground Operations. Survival and Rescue in Aircraft Accidents. PART VI. SANITATION AND HEALTH IN AIRLINE OPERATIONS. Sanitary Control of Airports and Ground Facilities. Health and Quarantine Regulations in Air Travel. PART VII. PASSENGER AND SERVICE PROBLEMS. Care and Contentment of Passengers. Transportation of Patients by Air.

Safety Education

FLORIO AND STAFFORD—Safety Education

By A. E. FLORIO, and G. T. STAFFORD, both of the University of Illinois. Second Edition.

400 *pp.*, 6 *x* 9, 67 *illus.* (1962).....$6.95*c*

This text serves a threefold purpose in preparing teachers of safety education: First, it gives the prospective teacher the foundation and up-to-date principles of education dealing with the needs of students, parents, and the community; second, it suggests the teaching principles and procedures that can be applied to meet these needs; and finally, it furnishes concrete material that can be utilized in the various areas of safety education. Considerable emphasis has been given to procedures that will help the student become motivated to the extent that he will accept the responsibility for selecting desirable patterns of behavior to meet his individual safety needs.

CONTENTS—Preface. The Scope and Methods of Safety Education. The Need for Safety Education. Psychological Considerations. Planning the School Safety Program. Teaching Safety. A Safe School Environment. Liability for School Accidents. The Areas of Safety. Pedestrian Safety. Bicycle Safety. Traffic Safety. Vocational Safety. Home Safety. Farm Safety. Fire and Disaster Safety. Safety in Physical Education. Audio-Visual Aid Sources. INDEX.

HALSEY—Accident Prevention

By MAXWELL N. HALSEY, Editor, Accident Prevention Committee, American Public Health Association.

400 *pp.*, 6⅜ *x* 9¼, 60 *illus.* (1961).$12.00*m*

Designed to serve as a text-reference volume for physicians and public health workers, this book contains current pertinent facts and data on safety and accident prevention with the points of view of outstanding authorities in the field. More than usual emphasis has been placed on the three basic groups of human factors; physical, psychological, and physiological. This volume also contains data and concepts previously available only in reprints, pamphlets and other receptacles of knowledge which are brought together in one volume.

CONTENTS—The Magnitude of the Problem. Community Organization. The Epidemiology of Accidents. The Family Approach. Childhood Accidents. Accidents to the Aged. Home Safety. Traffic Safety. Farm Safety. Industrial Safety. Medical Aspects of Fleet Driving. School Safety. Recreational Safety. Private Flight Safety. Emergency Care. The Physician's Role. Public Health Programs. Programs for Physicians and Medical Societies. Fact Gathering. Professional Education. Research.

Alcohol Education

McCARTHY—Alcohol Education

Edited by RAYMOND G. McCARTHY, Rutgers Univ.

In Press

Specialists from a number of disciplines provide a comprehensive presentation of facts and attitudes regarding the use and non-use of alcoholic beverages and questions of social concern arising from excessive use.

CONTENTS—Responsibility and Role of the School in Instruction about Alcohol. The Pharmacological, Physiological and Psychological Action of Alcohol. Statistics of Consumption of Alcoholic Beverages in the United States. Problems Associated with the Use of Alcoholic Beverages. Alcoholism—A Socio-Medical Problem. The Alcoholic Beverage Industry.

TODD—Teaching About Alcohol

By FRANCES TODD, Balboa High School, San Francisco.

In Press

Discusses what to teach about alcohol and how to teach it as a unit of study. The book presents factual material derived from research which offers a sound base for the content of instruction—physiological, psychological, and economic facts about alcohol and alcoholism. It contains specific methods for presenting this information. For college instructors and school administrators as well as junior and senior high school teachers, youth leaders, parents, and teachers of health sciences, social studies, physical education, and homemaking.

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432 *pp.*, 9 *x* 6¼, 119 *photographs*, 89 *maps & diagrams*.....$3.75†

This textbook has been designed to give full coverage to the regional study of Europe and Asia at the high school level. Included are single-purpose maps, made more graphic by the functional use of colour; charts and graphs; photographs, carefully selected to give as wide a coverage as possible of countries and topics; full-page inserts, dealing with topics and special interest in the various areas; detailed discussions of economic activities only in connection with the areas in which they are of greatest significance; teaching captions, to ensure that students derive maximum information from the maps and pictures; and practical work units at logical intervals throughout the text.

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518 *pp.*, 11½ *x* 8¼ (1960).....$15.00†

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FINCH, TREWARTHA, ROBINSON, AND HAMMOND—Elements of Geography

By VERNOR C. FINCH, GLENN T. TREWARTHA, ARTHUR H. ROBINSON, and EDWIN H. HAMMOND, University of Wisconsin. *Series in Geog.* Fourth Edition.

693 *pp.*, 7¼ *x* 9⅞, *illus.* (1957)....$8.95*c*
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Designed to supply textual material covering the major elements of geography in a form particularly suited for beginning courses in college geography. The main objective of the authors is to describe and depict the major elements of geography and to interpret their distribution over the earth so that the student will come to have an understanding of the nature and origin of the larger world geographic patterns and of their areal associations. The emphasis is upon world patterns rather than upon the unique characteristics of specific regions.

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FINCH, TREWARTHA, ROBINSON, AND HAMMOND—Physical Elements of Geography

By VERNOR C. FINCH, GLENN T. TREWARTHA, ARTHUR H. ROBINSON, and EDWIN H. HAMMOND, University of Wisconsin. *Series in Geog.* Fourth Edition.

541 *pp.*, 7¼ *x* 9⅞, *illus.* (1957)....$7.95*c*
Maps, Second Edition.....$.50*c*

This book is Part I of *Elements of Geography* published as a separate volume.

CONTENTS—The Field of Geography. The Earth. THE ELEMENTS OF WEATHER AND CLIMATE. Air Temperature. Atmospheric Pressure and Winds. Atmospheric Moisture and Precipitation. Air Masses, Fronts, and Storms. CLIMATIC TYPES AND THEIR DISTRIBUTION. The Tropical Rainy Climates. The Dry Climates. The Humid Mesothermal Climates. The Humid Microthermal Climates. Polar Climates and Highland Climates. PROCESSES CONCERNED WITH THE ORIGIN OF LANDFORMS. Earth Materials and the Tectonic Processes. The Agents and Processes of Gradation. LANDFORMS. Plains of Stream Degradation. Plains of Stream Aggradation. Glaciated Plains. Plains in Dry Climates. The Shore Features of Plains. Plateaus. Hill Lands. Mountains. EARTH RESOURCES. Water Resources of the Land. The Biotic Resource: Original Vegetation Cover and Associated Animal Life. Soils: Their Nature and Classification. The Great Soil Groups of the World. The Mineral Fields. Ores and Other Economic Minerals. Appendices.

† *Textbook edition available at educational list price.*

FREEMAN AND RAUP—Essentials of Geography

By OTIS W. FREEMAN, Eastern Washington College of Education, and H. F. RAUP, Kent State University. Second Edition.

543 *pp.*, 7¼ *x* 9⅞, 308 *illus.* (1959)..$7.95*c*
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Covers the principles of geography and affords a brief survey of the continents with emphasis on the human relationships in different environments. After the facts concerning the natural environments of man are discussed, the balance of the text is devoted to the geography of population, cities, agriculture, manufacturing, nations, transportation routes and factors affecting man on the various continents.

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FINCH, TREWARTHA, AND SHEARER—The Earth and Its Resources

By VERNOR C. FINCH, Emeritus, University of Wisconsin, GLENN T. TREWARTHA, University of Wisconsin, and M. H. SHEARER, Westport High School, Kansas City, Missouri. Third Edition.

592 *pp.*, 6½ *x* 9¼, 461 *illus.* (1959)..$6.36*s*
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EKBLAW AND MULKERNE—Economic and Social Geography

By SYDNEY E. ELBLAW, University of Kansas City, Missouri, and DONALD J. D. MULKERNE, New York State College for Teachers.

432 *pp.*, 7¼ *x* 9½, *illus.* (1958).....$6.72*b*
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FREEMAN AND MORRIS—World Geography

By OTIS W. FREEMAN, Eastern Washington College of Education, and JOHN W. MORRIS, University of Oklahoma. *Series in Geog.*

601 *pp.*, 7¼ *x* 9⅞, 311 *illus.* (1958).$8.50*c*
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Written and edited by a team of specialists, this book shows how world geography is essential in understanding the problems, policies, and actions of different countries. Throughout the text the human activities of the world are related to the relief features, climatic regions, and the natural resources—soils, vegetation, supplies of water, and the occurrence of mineral deposits.

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CRESSEY—Asia's Lands and Peoples, 3rd Ed.

By GEORGE B. CRESSEY, Syracuse Univ. *Series in Geog.*

652 *pp.*, 7¼ *x* 9⅞, 360 *illus.* (1963) $13.95*t*†

One of the world's distinguished geographers reexamines the physical environment and cultural features of Asia.

CONTENTS—THE CONTINENT OF ASIA. Two Billion People. Asian Landscapes. The Realms of Asia. THE EAST ASIAN REALM. China's Cultural Patterns. China's Physical Foundations. China's Economic Potentials. Regions of North China. Regions of South China. Regions of Outer China. Taiwan. Mongolia. The Two Koreas. Japan's Prospects. The Japanese Environment. Livelihood in Japan. Regions of Japan. THE SOUTHEAST ASIAN REALM. The Indo-Pacific Realm. The Southeast Asian Base. Livelihood in Southeast Asia. The Indochina States. Thailand. Burma. Malaysia. Indonesia. The Philippines. THE SOUTH ASIAN REALM. The Subcontinent. Indo-Pakistan Land and Resources. Indo-Pakistan People and Livelihood. Regions of North India. Regions of South India. Pakistan. Ceylon. THE SOUTHWEST ASIAN REALM. Southwestern Mountains, Deserts, and Oases. People and Land in Southwest Asia. Resources and Potentials of Southwest Asia. Turkey. The Arabian Peninsula. The Levant States. Iraq. Iran. Afghanistan. THE SOVIET REALM. Soviet Potentials. Soviet Landscapes. Soviet Mineral Resources. Socialist Economy.

† *Textbook edition available at educational list price.*

CRESSEY—Land of the 500 Million: A Geography of China

By GEORGE B. CRESSEY, Syracuse University. *Series in Geog.*

387 *pp.*, 7⅛ *x* 9⅞, *illus.* (1955)....$13.50*t*†

The fruit of eight years of residence and three decades of study, this book is primarily a human geography in that man and his activities (social, economic, and political) are the central focus. At the same time there is a thorough analysis of the environmental base.

CONTENTS—List of Maps. List of Tables. List of Climatic Charts. Half a Billion People. Three and a Half Million Square Miles. Sunshine, Wind, and Rain. Water, Too Much or Too Little. Crops for Today. Resources for Tomorrow. Commerce and Industry. The Yangtze Basin—Humid and Subtropical. Tropical China—The Evergreen South. Taiwan—Offshore Island. The Hwang Basin—Brown and Dustblown. Manchuria—Pioneer Northland. Outer China—Mongolia, Sinkiang, and Tibet. China's Prospects. Bibliography. Index.

KOHN AND DRUMMOND—The World Today

Its Patterns and Cultures

By CLYDE F. KOHN, State University of Iowa and DOROTHY DRUMMOND, Terre Haute, Indiana.

640 *pp.*, 7¼ *x* 9⅝, 357 *illus.* (1963)..$6.88*s*

Correlated Text-Film Filmstrip Series—eight Filmstrips .....*In Prep.*

This 9th grade world geography is primarily a regional geography, with comprehensive units on each of the 8 cultural regions of the world. For each region there is a discussion of physical features, location, climate, soils, resources, history, culture, population, ethnic groups, agriculture, industry, commerce, government (and sometimes politics), and international relations presented in terms of the region as a whole. In addition, selected information is given about many individual countries. There are also 4 units which view the world as a whole in terms of all the traditional "elements of geography." Illustrations include 200 photographs, 31 charts, 9 4-color maps, and 146 2-color maps. The 2-color maps are made by a map-making technique involving photography, heretofore used mainly for commercial purposes.

CONTENTS—The Earth and Man. The Earth as a Source of Food. Industrial and Commercial Centers of the World. Political Divisions of the World. Anglo-America—Two Nations with Common Goals. Latin-America—Neighbors and Partners. Europe—Fire in the Ashes. The Soviet Union—World's Largest Nation. The Middle East—Region of Restlessness. The Orient—Land of Rising Expectations. The Lands Down Under and the Pacific World. Africa South of the Sahara—A Fast-Changing Land.

KOSTEK—The Modern Commonwealth

By M. A. KOSTEK, Public School Board, Edmonton, Alberta; W. BRUCE BRAUND, Sir Adam Beck Secondary School, London, Ontario; JOHN K. WOODS, G. A. Wheable Secondary School, London, Ontario. *McGraw-Hill Geography for Canadians Series.*

384 *pp.*, 6 *x* 9 (1963).....$2.75

The book is designed for study of all the members of the British Commonwealth of Nations except Canada, which is usually studied separately in another year. All Commonwealth members are studied from a Canadian point of view with many direct comparisons to Canada being drawn.

A regional approach is used throughout the text. The physical geography of each region is outlined; then man's adaptation to the geographical setting is studied in each of the Commonwealth lands within the region.

Although a topic may be of some importance in several areas, it receives detailed consideration only within the area where it is most significant. The important factors of each region's economy and the effects these factors have upon the people of the region have been stressed.

CONTENTS—The Modern Commonwealth. The British Isles. The Commonwealth in Africa. The Commonwealth in South Asia. The Commonwealth in Southeast Asia. Australia. New Zealand. The Commonwealth in the West Indies. Other Commonwealth Members and Dependencies. Selected Statistics.

POUNDS—Europe and the Mediterranean

By NORMAN J. G. POUNDS, Indiana University. *Series in Geog.*

440 *pp.*, 7¼ *x* 9⅞, 337 *illus.* (1953)..$8.50*c*

Covers the human, economic, and physical factors. The whole Mediterranean field is considered, including Turkey, Syria, Israel, Jordan and the coast of North Africa. European Russia is discussed in some detail, with a lighter coverage given to Asiatic Russia.

CONTENTS—Preface. Europe: The Land. Europe: Climate, Soil, and Vegetation. Europe: Race, Language, and Nationality. Europe: The Economic Basis. Northern Europe. Norway. Sweden and Finland. Denmark. Western Europe. The British Isles. Britain's Economy. France. The Economy of France. The Low Countries. Switzerland. Introduction to Central Europe. Germany in the Modern World. The Regions of Contemporary Germany. Poland. Czechoslovakia. Austria. Danubian and Balkan Lands. The Mediterranean Region. Greece and Albania. Italy. The Iberian Peninsula. French North Africa. Egypt and Libya. Syria and Israel. Turkey. The U.S.S.R. Conclusion: East and West. Index.

POUNDS—Political Geography

By NORMAN J. G. POUNDS, Indiana University. *Series in Geog.*

432 *pp.*, 6⅞ *x* 9¼, 112 *illus.* (1963)..$9.50*c*

This book presents a systematic functional approach to the elements of political geography. It analyzes and explains how and why the surface of the earth is divided politically, and shows how each state should be examined so that the student may make his own analysis. Function of the state, its policy, and power to implement that policy are fully discussed. The junior-senior level text examines the power of the state as based upon size and location, boundaries, population, resources and their utilization, and alliances and dependencies. Rivers, transit rights, straits, and sea canals of international significance are also discussed.

CONTENTS—The State and the Nation. Area and Location of the State. Frontiers and Boundaries. The Territorial Sea. Population. Resources and Power. Core-Acres and Capitals. The Geography of Administrative Areas. Geographical Aspects of Relations Between States. The Political Geography of Foreign Trade. The Political Geography of Rivers. The Political Geography of International Organization. Colonies and Colonialism. The Underdeveloped World. The Political Pattern of the World. Index.

RAISZ—General Cartography

By ERWIN RAISZ, University of Florida, *Series in Geog.* Second Edition.

354 *pp.*, 7¼ *x* 9⅞, 306 *illus.* (1948)..$8.95*c*

A reference book incorporating changes in the field resulting from World War II. Map-making is presented in understandable terms with a minimum of mathematics, and there are new chapters on aerial photography and mapping, photographic map interpretation, and photographic surveying methods.

CONTENTS—GENERAL CARTOGRAPHY. The History of Maps. Scales and Projections. Representation of the Earth's Pattern on Maps. Lettering, Composition, and Drafting of Maps. SPECIAL MAPS. Official and Professional Maps. Diagrams, Statistical Maps, and Cartograms. Science Maps and Diagrams. Globes, Models, Field Sketching, and Cataloguing.

† *Textbook edition available at educational list price.*

RAISZ—Principles of Cartography

By ERWIN RAISZ, University of Florida. *Series in Geog.*

322 *pp.*, 6 *x* 9, 300 *illus.* (1962)....$8.50*c*

This practical, compact guide will help students understand the language of maps; enable them to draw their own maps for theses and publication; and give them a foundation for more specialized work if they desire to become professional cartographers. The book covers the basic concepts of the whole field, from which selections can be made for individual needs. It even includes such items as surveying, aero-surveying, diagrams, photography, engraving and printing.

CONTENTS—Introduction. Tools and Equipment. Air Photo Reading. The Principles of Map Making. Field Methods. Lettering, Principles of. Lettering, Practice of. Geographic Names. Relief Methods (Contour Lines). Landforms and Land Slopes. Government Maps. Private Maps. Map Collection and Compilation. Map Design and Layout. Lines, Shades, and Colors. Map Reproduction. The Earth. Surveying (Land, Geodetic, Aero, and New Developments). Map Projections. Azimuthal Projections; Grid Systems. Thematic (Statistical) Maps. Diagrams. Cartograms. Science Maps. Land-use and Economic Maps. Globes. Models. Photography for Cartographers. Modern Techniques. Appendix.

KOEPPE AND DE LONG—Weather and Climate

By CLARENCE E. KOEPPE, San Diego State College, and GEORGE C. DE LONG, Eastern Michigan University.

341 *pp.*, 7¼ *x* 9⅞, 173 *illus.* (1958).$7.95*c*

Designed to meet the ever increasing need for a simple, brief, and accurate survey text in the fields of meteorology and climatology. This book covers weather principles and processes, including: the nature, extent, and composition of the atmosphere; the weather elements—their measurements and variations (both horizontally and vertically) daily, seasonally, and annually; the general circulation of the atmosphere, including jet stress; air masses and fronts; and the weather map and weather forecasting. The subjects of meteorology and climatology are presented completely and accurately, but without recourse to mathematics or physics beyond the simplest concepts.

CONTENTS—Preface. Weather and Climate. Weather Lore. The Atmosphere: Extent, Composition, and Pressure. Heating and Cooling of the Atmosphere. Temperature. Moisture. Wind. General Circulation of the Atmosphere. Air Masses and Fronts. Synoptic Weather, Storms, and Local Winds. Atmospheric Optics. Climate. Physical Climate. World Distribution of Temperature. World Distribution of Pressure and Winds. World Distribution of Precipitation. Classifying and Charting Climates. The Humid Tropical Climates. The Dry Climates. The Humid Mesothermal Climates. The Humid Microthermal Climates. The Polar or Arctic Climates. APPENDIX—Selected References—Conversion Tables—Temperature of the Dew Point—Relative Humidity in Per Cents—Table of Sines—The Koeppe Classification of Climate—Climatic Data for Selected Stations. Index.

STONE AND INCH—Geographic Fundamentals

By WILFRID G. STONE, Lakeshore Teachers' College, Toronto, and R. SPENCER INCH, York Mills Collegiate, Toronto.

469 *pp.*, 9¼ *x* 6¼, 245 *illus.* (1963).$3.75

An introduction to physical and economic geography for intermediate high school, this text introduces the student to the basic principles of physical geography and their effect on man's economic and cultural activities.

SWATRIDGE, LANGMAN AND BURBIDGE—Selected Studies in Regional Geography

By L. SWATRIDGE, Weston Collegiate and Vocational Institute, Toronto; R. C. LANGMAN, Kitchener-Waterloo Collegiate and Vocational School, Kitchener, Ontario; and A. A. BURBIDGE, W. L. Mackenzie Collegiate Institute, Toronto.

502 *pp.*, 6½ *x* 9, 186 *illus.* (1963)...$3.95

The purpose of this book is to provide intensive regional studies in geography for students who have a basic knowledge of the elements of the topic, and who have covered the geography of the world in junior courses. Each of the 14 selected regions offers a detailed study in a particular aspect of geography, be it economic, physical, social or historical. The regions have been chosen from four major areas of the world: the United States, Europe, The Soviet Union, and Asia.

The book is illustrated with 2-colour maps and charts, photographs, drawings and detailed plans; question material is included at the end of each regional study.

THOMAN—The Geography of Economic Activity

By RICHARD S. THOMAN, Queen's University, Kingston, Ontario. *Series in Geog.*

624 *pp.*, 8¼ *x* 9¼, 330 *illus.* (1962)..$8.95*c*

Study Guide (Thoman and True)....$2.50*c*

This introductory text in economic geography helps the student understand more fully the location and functioning of economic activity within a world which so markedly varied from place to place in its human and natural features. Cultural differences, especially those between technically advanced and underdeveloped economies and non-Communist and Communist realms of influence are emphasized. Stress is also placed upon variations in nature and the importance of these differences is discussed in view of international and domestic trade, travel and communication, etc.

CONTENTS—Introduction. THE HUMAN BEING AND HIS ECONOMIES. People, Countries, and Economies. Technically Advanced and Underdeveloped Economies. Consumption and the Functioning of Economies. THE NATURAL ENVIRONMENT. Landforms and Mineral Resources. Climate, Water, and Air Resources. Biotic and Soil Resources. WORLD PATTERNS OF PRODUCTION AND EXCHANGE. World Patterns of Production. Locational Considerations in Production. World Patterns of Transportation. World Patterns of Trade. THE SOURCES AND APPLICATION OF ENERGY. The Significance of Energy. Energy from Coal. Energy from Petroleum and Natural Gas. Electrical and Nuclear Energy. Nonfossiliferous Organic Energy. THE ROLES OF SELECTED COMMODITIES. Agriculture as an Economic Activity. Agriculture: Wheat, Rice, and Corn. Agriculture: Sugar. Agriculture: Coffee, Tea, and Tobacco. Agriculture: Plant Fibers. Agriculture and Grazing: Animal Products. Forest-products Industries: Roundwood. Fishing: Assorted Products. Mining and Quarrying as Economic Activities. Mining: Industrial Materials Not Used for Energy or in Metallurgy. Mining: Precious Materials. Mining: Iron Ore and Other Industrial Metals. Manufacturing as an Economic Activity. Manufacturing: Iron and Steel. Manufacturing: Transportation Equipment. Manufacturing: Chemicals. Manufacturing: Pulp and Paper. Manufacturing: Textiles. Manufacturing: Foods. TRENDS AND OUTLOOK. TABLE OF POLITICAL UNITS.

TREWARTHA—An Introduction to Climate

By GLENN T. TREWARTHA, University of Wisconsin. *Series in Geog.* Third Edition.

402 *pp.*, 7¼ *x* 9⅞, 281 *illus.* (1954)..$8.50*c*

Emphasizes both the systematic aspects of climatology and the regional features as revealed in the world pattern of climatic types and their distribution. This distinctive volume, which not only describes climate but also ex-

plains it, will be valuable reading to all persons interested in meteorology, climatology, geography, and allied fields.

CONTENTS—Part I. THE ELEMENTS OF CLIMATE. Introduction. Air Temperature (Including Insulation). Atmospheric Pressure and Winds. Atmospheric Moisture and Precipitation. Air Masses and Fronts. Atmospheric Disturbances and Their Associated Weather Types. Part II. THE WORLD PATTERN OF CLIMATES. CLIMATIC TYPES AND THEIR DISTRIBUTION. Classification of Climates and the World Pattern. The Tropical Rainy Climates (A). The Dry Climates (B). The Humid Mesothermal Climates (C). The Humid Microthermal Climates (D). Polar Climates and Highland Climates. Appendixes: A. Köppen's Classification of Climates. B. Supplementary Climatic Data for Selected Stations. Index.

TREWARTHA, ROBINSON, AND HAMMOND—Fundamentals of Physical Geography

By GLENN T. TREWARTHA, ARTHUR H. ROBINSON, and EDWIN H. HAMMOND, all of the University of Wisconsin. *Series in Geog.*

448 *pp.*, 6⅞ *x* 9¼, 325 *illus.* (1961)..$7.25*c*

A technically sound, but simplified, introduction to physical geography specifically designed for one-semester or one-quarter survey courses. The subject matter content is basically the same as that of the author's longer work—PHYSICAL ELEMENTS OF GEOGRAPHY. However, the degree of generalization is greater, complicated technical discussions are simplified or omitted, the number of topical headings is greatly increased to make comprehension easier for the beginning student, all chapters have been newly written, up-to-date information has been incorporated, and in some instances a new approach has been taken. This book will provide the essential physical foundation for subsequent courses in economic and cultural geography.

CONTENTS—The Earth: Basic Facts and Mapping. The Varieties of Surface Form. How Surface Form Develops. Plains. Surfaces Rougher than Plains. The Margins of the Land. Introduction to Climate; Air Temperature and Solar Energy. The Circulation of the Atmosphere; Winds and Pressure. Precipitation. Atmospheric Disturbances: Air Masses and Fronts. Classification of Climates and Their Distribution; the Tropical Humid Climates. The Dry Climates. Humid Mesothermal Climates. Humid Microthermal, Polar, and Highland Climates. Water and the Seas. The Waters of the Land. Natural Vegetation. Soils. Minerals. Appendix: List of Topographic Maps. Map Section: Average Annual Precipitation, Climates of the Earth (Front End Paper), Terrain of the Earth, Lithic Regions, Natural Vegetation, Distribution of Soils, Distribution of Population, Agricultural Types and Regions, Surface Temperature Regions of the Continents.

BARTHOLOMEW—Advanced Atlas of Modern Geography

By JOHN BARTHOLOMEW, The Geographical Institute, Edinburgh. Third Edition.

159 *pp.*, 10½ *x* 15¼, *illus.* (1957).$11.50*r**†

John Bartholomew and Sons, Limited, one of the world's most outstanding cartographers, for more than one hundred years has been producing maps of highest quality and workmanship. This revised edition is completely new, with maps and plates remade and containing latest available data. Plates have been handmade by a highly intricate, special color process and their clarity, precision, and accuracy make this atlas one that will be repeatedly referred to as an unimpeachable authority. The maps cover the world by regions. Particular attention is paid to the physiographic features of an area. In addition, world and continental maps are presented.

** For sale in the Western Hemisphere and Philippines only.*

VAN RIPER—Man's Physical World

By JOSEPH E. VAN RIPER, Harpur College, State University of New York. *Series in Geog.*

656 *pp.*, 6⅞ *x* 9¼, 344 *illus.* (1962)..$8.50*c*

This book describes and interprets the major physical patterns on the earth's surface. Particular care is taken to show the various elements of man's natural environment (soil, landforms, climate, etc.), not as separate entities, but as dynamic agencies of nature that interact to produce the earth's varied landscapes. Man's role as a stabilizing or disruptive factor in various environmental associations is discussed. The book describes both physical patterns on a global scale and those perceived locally. The geographic or distributional aspects of nature are emphasized within the setting of general earth science, making the text suitable for introductory courses in either physical geography or earth sciences.

CONTENTS—Preface. The Field of Physical Geography. Location, Scale, and Maps. Topographic Landforms. The Major Lineaments of the Earth Surface. The Elements of Surface Configuration. Temperature, Humidity, and Precipitation. Atmospheric Pressure, Winds, Air Masses, and Storms. Global Climatic Patterns. Principles and Factors in Plant Geography. Major Vegetation Regions of the World. Soils; Their Properties and Classification. The Great Soil Groups of the World. Mineral Resources. Water Resources. The Realm of the Sea. Study Questions. Appendix A. Details of a Simplified Koeppen-Geiger System of Climatic Classification; World Climatic Station Records. Appendix B. Reference Reading List. Appendix C. Glossary of Terms. Index.

Geological Sciences

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† *Textbook edition available at educational list price.*

Physical and Historical Geology

BRANSON, TARR, AND KELLER—Introduction to Geology

By E. B. BRANSON and W. A. TARR; revised by C. C. BRANSON, University of Oklahoma, and W. D. KELLER, University of Missouri. Third Edition.

492 *pp.*, 6 *x* 9, *illus.* (1952).....$7.50*c*

A well-known text for first-year college geology courses. The book is well balanced between physical and historical geology. It is designed to teach those who are studying geology as a cultural subject as well as those who plan to make geology their career. Technical terminology has been kept to a minimum. The authors have attempted to eliminate from this new edition all unnecessary technical terms.

CONTENTS—Part I. PHYSICAL GEOLOGY. Introduction. The Organization of Matter (of the Earth). Volcanism and Igneous Rocks. Weathering of Igneous Rocks. Introduction to the Physical Agents. Running Water. Ground Water. The Ocean. Sedimentary Rocks. Metamorphic Rocks. Snow and Ice. The Wind. Structures and Diastrophism. Earthquakes. Part II. HISTORICAL GEOLOGY. Introduction. Origin of the Earth. Dawn of Earth History. The Paleozoic Era. Petroleum Geology and the Petroleum of the Paleozoic. Middle Paleozoic; Silurian and Devonian Periods. Upper Paleozoic; Mississippian, Pennsylvanian, and Permian Periods. The Mesozoic Era. Lower Mesozoic; Triassic Period. Middle Mesozoic; Jurassic Period. Upper Mesozoic; Cretaceous Period. The Cenozoic Era. The Pleistocene or Glacial Epoch. Index.

EMMONS, ALLISON, THIEL, AND STAUFFER—Geology: Principles and Processes

By W. H. EMMONS, IRA S. ALLISON, Oregon State College, GEORGE A. THIEL, University of Minnesota, and CLINTON R. STAUFFER, formerly University of Minnesota, California Institute of Technology. Fifth Edition.

491 *pp.*, 8¼ *x* 9, 516 *illus.* (1960)....$8.50*c*

Prepared for use in a one-semester beginning course for college students. It is intended to give the student some knowledge of the materials of the earth and of the processes that operate at the earth's surface and that have operated in the past to form the earth. The fifth edition maintains the same descriptive approach of its predecessors but has been almost completely rewritten and updated. There are some 500 illustrations; more than 250 new line drawings use a second color to make geologic features and processes clearer to the student.

CONTENTS—Preface. Geology—a Science. Earth as a Planet. Atoms, Radioactivity, and Geologic Time. Land, Sea, and Air. Minerals. Vulcanism. Igneous Rocks and Associated Ores. Rock Weathering and Soils. Sedimentation and Sedimentary Rocks. Gradation by Gravity. Gradation by Running Water. Snow, Ice, and Glaciers. Sea Movements and Their Effects. Ground Water. Wind as an Agent of Gradation. Lakes and Swamps. Rock Deformation and Mountain Building. Metamorphism and Metamorphic Rocks. Earthquakes and the Interior of the Earth. Appendix A. Maps. Topographic and Structural. B. Map Symbols, Columnar Sections, and Structure Sections. C. Chemical Symbols. D. Keys to Igneous, Sedimentary, and Metamorphic Rocks. Glossary. Index.

EMMONS, ALLISON, THIEL AND STAUFFER—Geologia, Fifth Edition.

In Press

HUSSEY—Historical Geology

By RUSSELL C. HUSSEY, University of Michigan. Second Edition.

465 *pp.*, 6 *x* 9, *illus.* (1947).....$7.50*c*

This text gives the history of North America and its inhabitants throughout two billion years, with emphasis on the development of life during various geologic periods. The author covers the principles of evolution and elaborates upon them as each group of vertebrates is introduced. The time is divided into eras and periods and each division is described in order beginning with the oldest, and the plants and animals characteristic of each period are described and illustrated.

CONTENTS—Introduction. The Origin of the Earth. Organizing the Geologic Record. Fossils Reveal the Life of the Past. The Concept of Evolution. The Archeozoic Era. The Proterozoic Era. The Paleozoic Era: The Cambrian Period. The Ordovician Period. The Silurian Period. The Devonian Period. The Mississippi Period. The Pennsylvanian Period. The Permian Period. The Triassic Period. The Jurassic Period. The Cretaceous Period. The Tertiary Period. The Pleistocene Epoch. Life of the Cenozoic. The Geologic History of Man.

LEET AND LEET—The World of Geology

Edited by L. DON LEET, Harvard University, and FLORENCE J. LEET.

262 *pp.*, 5⅝ *x* 8⅜, 70 *illus.* (1961)..$4.25*c*
*McG-H Paperbacks Ed.**

This carefully selected group of readings introduces the layman to the world, as it is seen through the eyes of the geologist. It explains the origin of the earth, life, and the atmosphere; describes the ocean deeps, the interior and exterior of the earth; tells the story of glacial movement and of the great ice sheets that waxed and waned over the face of the earth during the past million years; shows how prominent land features are formed; and describes the materials that make up the planet earth.

CONTENTS—Introduction by L. Don Leet and Florence J. Leet. Geology 1900–1950 by Reginald A. Daly. Origin of the Earth by Fred L. Whipple. Records of Life by Percy E. Raymond. Development of Life by George Gaylord Simpson. Man and Geologic Time by Edwin H. Colbert. Origin of the Atmosphere by Helmut E. Landsberg. Oceans and Their Hidden Lands by Rachel Carson. Ocean's Deep by Lt. Don Walsh, USN. A Giant of Geology by Carroll Lane Fenton and Mildred Adams Fenton. Ice on the Land by Louis Agassiz. Ice and Ocean Levels by Rachel Carson. Giant Waves by Joseph Bernstein. The Restless Earth and Its Interior by L. Don Leet and Florence J. Leet. A Volcano Erupts, adapted from "The 1959 Eruption of Kilauea." Volcanoes Build the Land by Howel Williams. Wearing Away the Land by S. J. Shand. Water Under the Ground by Robert M. Garrels. Materials of the Earth by Carroll Lane Fenton, Cornelius S. Hurlbut, Jr., and Richard M. Pearl. The Mountain Story by Marland P. Billings and Charles R. Williams.

* *Available only through your local bookstore.*

MOORE—Introduction to Historical Geology

By RAYMOND C. MOORE, University of Kansas. Second Edition.

656 *pp.*, 7¼ *x* 9⅞, 594 *illus.* (1958).$8.95*c*

Treats the history of the earth by applying principles of interpretation derived from observation of present-day geologic processes—such as weathering of rocks, transportation and deposition of sediment by various agencies in different environments, volcanism, and crustal deformation—to analysis of the geologic record. This revision contains the first presentation of subsurface occurrence of geologic systems in North America and a graphic summary of rock characters of the most important sequences of strata belonging to each geologic systems.

CONTENTS—Preface. Materials and Methods of Historical Geology. Evolution of Life. The Beginning of the Earth. Cryptozoic Eon. Paleozoic Era: Cambrian Period. Paleozoic Era: Ordovician Period. Paleozoic Era: Silurian Period. Paleozoic Era: Devonian Period. Paleozoic Era: Mississippian Period. Paleozoic Era: Pennsylvania Period: Paleozoic Era; Permian Period. Nature and Evolution of Paleozoic Life. Mesozoic Era: Triassic Period. Mesozoic Era: Jurassic Period. Mesozoic Era; Cretaceous Period. Nature and Evolution of Mesozoic Life. Cenozoic Era: Paleogene

Period. Cenozoic Era: Neogene Period. Cenozoic Era: Neogene Period—Pleistocene Epoch. Nature and Evolution of Cenozoic Life. Geologic Record of Man. Appendix A—Characters of Organisms Represented among Fossils. Appendix B—Graphic Representation of Rocks. Apppendix C—Glossary of Terms Used in Historical Geology. Index.

MOORE—Historical Geology

By RAYMOND C. MOORE, University of Kansas.

673 *pp.*, 6 *x* 9 (1933).....$1.00*c*

The physical and biologic aspects of earth history are well correlated, but are segregated in major units based on eras or suberas. Principles of interpreting the geologic record are developed on the basis of study of a definite region, the Grand Canyon district. Emphasis is placed on the illustrative aids. Block diagrams are especially numerous, and figures on plates are identified on the plates, avoiding long legends. The book is unusually authoritative and accurate.

CONTENTS—Introduction; The Materials of Earth History; The Beginning of the Earth; Development of the Primitive Earth; The Historical Significance of Rock Character; Geologic Time and Its Divisions; The Pre-Cambrian Eras; The Oldest Known Rocks; The Formations and History of the Archeozoic Era; The Formations and History of the Proterozoic Era; The Beginning of Life; The Paleozoic Subera; Formations and Physical History of Cambrian Time; Formations and Physical History of Ordovician Time; Formations and Physical History of Silurian Time; The Nature of Fossils; Life of Early Paleozoic Time; The Late Paleozoic Subera; Formations and Physical History of Devonian Time; Formations and Physical History of Mississippian Time; Formations and Physical History of Pennsylvanian Time; Formations and Physical History of Permian Time; Life of Late Paleozoic Time; The Mesozoic Era; The Mesozoic Formations; Formations and Physical History of Triassic Time; Formations and Physical History of Jurassic Time; Formations and Physical History of Cretaceous Time; Life of Mesozoic Time; The Cenozoic Era; The Cenozoic Formations; Formations and Physical History of Tertiary Time; The Quaternary Period; Life of Cenozoic Time; The Geologic History of Man; Selected References; Index.

Geomorphology

FENNEMAN—Physiography of Western United States

By NEVIN M. FENNEMAN.

534 *pp.*, 6 *x* 9, 173 *illus. and maps* (1931) $11.00*c*

The purpose of this book is to summarize the knowledge of the physiography of western United States, describing the land forms and giving their history. The book treats three of the major physical divisions of the United States and part of a fourth-part of the Interior Plains; the Rocky Mountain System; the Intermontane Plateaus; and the Pacific Mountain System.

CONTENTS—Great Plains Province. Southern Rocky Mountain Province. Wyoming Basin. Middle Rocky Mountain Province. Northern Rocky Mountain Province. The Columbia Plateau. Colorado Plateau Province. Basin and Range Province. Sierra Cascade Province. Pacific Border Province.

FENNEMAN—Physiography of Eastern United States

By NEVIN M. FENNEMAN.

714 *pp.*, 6 *x* 9, 195 *illus. charts, and maps* (1938) $13.00*c*

The purpose of this companion volume to the well-known *Physiography of Western United States* is to establish order in the vast amount of geologic literature on the eastern United States and to organize the knowledge in an attempt to interpret the physiographic history of this area. There are outstanding illustrations and maps.

CONTENTS—Coastal Plain Province. Piedmont Province. Blue Ridge Province. Ridge and Valley Province. Appalachian Plateau Province. New England Province. Adirondack Province. Interior Low Plateau Province. Central Lowland East of the Mississippi. The Superior Upland. Central Lowland West of the Mississippi. Ozark Plateaus. Ouachita Province.

LOBECK—Geomorphology

An Introduction to the Study of Landscapes

By A. K. LOBECK.

731 *pp.*, 6 *x* 9, *illus.* (1939).....$12.50*c*

Systematically explains all types of landscapes in terms of their origin and stage of development. The first part of the book deals with the forms produced by destructive forces, such as streams, glaciers, waves, wind, and organisms, while the last part describes plains, plateaus, and the several kinds of mountains. Many photographs and diagrams, comprising about one half of the volume, make the text doubly clear.

CONTENTS—Introduction. Rocks and Structures. Weathering. Underground Water. Streams in General. Young Streams. Mature Streams. Alpine Glaciation. Continental Glaciation. Waves. Wind. Organisms. Coastal Plains. Plains and Plateaus. Dome Mountains. Block Mountains. Folded Mountains. Complex Mountains. Volcanoes. Meteor Craters.

Field Geology and Map Interpretation

LAHEE—Field Geology

By FREDERIC H. LAHEE, Consulting Geologist. Sixth Edition.

926 *pp.*, 5 *x* 7½, 641 *illus.* (1961)..$11.50*c*

More than four decades of sustained success have won this outstanding field manual a front-rank position among books on geology. The sixth edition retains the features which have made its predecessors so valuable as a text and reference: broad coverage of subject matter, concise definitions, careful explanations. Improved and brought up to date, this edition contains new developments, methods, theories, and definitions.

CONTENTS—Preface to the Sixth Edition. Preface to the First Edition. Introduction. Features Seen on the Surfaces of Rocks. Rock Particles and Fragments. Original Surface Features of Sediments. Original Structures and Structural Relations of Sedimentary Rocks. Field Relations of Igneous Rocks. Tilted and Folded Strata. Fractures and Fracture Structures. Metamorphic Rocks. Mineral Deposits. Topographic Forms. Topographic Expression. Topographic Maps and Profile Sections. Geologic Surveying—General Observations. Geologic Surveying—Instruments and Other Equipment Used in Geologic Field Mapping. Geologic Surveying—Instrumental Methods of Field Mapping. Geologic Surveying—Air Reconnaissance, Air Photography, and Air Mapping. Subsurface Geologic Surveying. Modes of Geologic Illustration. Interpretation of Geologic Maps. Geologic Computations. Preparation of Geologic Reports. Geophysical Surveying. APPENDIX. Geologic Time Scale. Identification Table of Common Rock Minerals. Classification of Igneous Rocks. Classification of Sedimentary Rocks. Classification of Metamorphic Rocks. Table for the Identification of Clastic Sedimentary Rocks. Land Survey Divisions, United States and Canada. Measurement and Weight. Solution of Triangles. Natural Circular Functions. Equivalent Angles of Slope and Per Cent Grades. Equivalent Dips Expressed in Angles and in Feet per Mile. Correction for Dip in Directions Not Perpendicular to Strike. Protractor for Correction of Dip. Graphic Determination of Dip Components When Dips Are Measured in Feet per Mile. Dip, Depth, and Thickness of Inclined Strata. W. S. Tangier Smith's Chart. Stadia Tables. Natural Tangent Table. Curvature and Refraction Table. Lengths of Degrees of the Parallel. Lengths of Degrees of the Meridian. Bibliography. Index.

DAKE AND BROWN—Interpretation of Topographic and Geologic Maps

By C. L. DAKE; and J. S. BROWN, Chief Geologist, St. Joseph Lead Co., Bonne Terre, Mo.

355 *pp., pocket size,* 51 *illus.* (1925)..$8.50*c*

CONTENTS—Introduction. Part I. Interpretation of Topographic Maps. Special features of maps. Direction and orientation. Scales. Methods of representing topography. Contours and their significance. Drawing topographic profiles. Describing locations on a map. Conventional symbols (legend). Land forms, their development and recognition. Topography resulting from the work of ground water. Topography resulting from wind work. Topography resulting from the work of glaciers. Features resulting from the work of waves. Features resulting from vulcanism. Features resulting chiefly from diastrophism. Features resulting from the work of running water. Erosion by water. Relation of land forms to structure. Appendix to Part I. Part II. Interpretation of Geologic Maps. Dipping beds. Folds. Faults. Effect of faults on outcrop. Intermediate faults. Faults with diminishing throw. Age of faulting. Igneous rocks. Intrusives. Extrusives. Unconformities. Criteria for recognizing unconformity on a map. History involved in an unconformity. The drawing of structure sections. Representation of structure by contours. Hydrologic maps. Miscellaneous adaptations of contours. Geologic history of an area. Appendix to Part II. Index.

MILLER AND MILLER—Photogeology

By VICTOR C. MILLER, Miller & Associates, Inc. and CALVIN F. MILLER, Miller & Associates, Inc. *Int'l Series in Earth Sc.*

258 *pp.,* 9 *x* 12, 153 *illus.* (1961)....$13.50*c*

This technically oriented book covers the concepts of aerial photography, photogrammetric instrumentation, and stereoscopy. Although technically the book is intended as a text in graduate or advanced undergraduate courses in photogeology or photogeologic interpretation, it will be useful in courses in geomorphology, structural geology, field geology, and should have reference use in geology, geography, cartography, photogrammetry, and civil engineering. It will help the photogeologist increase the quality, scope, and reliability of his interpretation. Included are stereo-pair aerial photographic illustrations accompanied by individual texts, exercises, and pertinent topographic or geologic maps, sketches, and cross-sections.

CONTENTS—Foreword. Preface. Introduction. Acknowledgements. MECHANICS. Introduction. Aerial Photography. Stereoscopy. Measuring and Plotting Instruments. Procedures. PRINCIPLES OF INTERPRETATION. Introduction. Types of Photogeologic Study. Factors Affecting Results. Identification and Interpretation. Approach and Criteria. ILLUSTRATIONS AND EXERCISES. Introduction. Division of Illustrations into Categories. General or Elementary Geomorphology. Direct or Supplemental Geomorphology. Indirect or Complemental Geomorphology. Independent Geomorphology. Routine Photogeology. Moderately Difficult Photogeology. Difficult Photogeology. APPENDIX. References to Part III. Illustrations. BIBLIOGRAPHY. INDEX.

Structural Geology

BELOUSSOV—Basic Problems in Geotectonics

By V. V. BELOUSSOV, Corresponding Member, Academy of Science, U.S.S.R; Editor of English Edition, JOHN C. MAXWELL, Princeton University; Principal Translator, PAUL T. BRONEER. Prepared under the guidance of the Advisory Committee on Translations of the American Geological Institute. *Int'l Series in Earth Sc.*

820 *pp.,* 6 *x* 9, 218 *illus.* (1962)....$14.00*c*

This important reference work, by Russia's leading tectonophysicist, provides an authoritative analysis of the present status of geotectonic theory in the Soviet Union. A fundamental, and perhaps unique concept developed in the book is that vertical movement of large segments of the earth's crust, rising and subsiding in rhythm and oscillation, is responsible for the development of major structural features. *This essentially denies the primary role of horizontal stress.* Academician Beloussov has greatly revised the material for this English edition by drawing on present-day concepts and data in the various fields of geotectonics.

CONTENTS—GEOTECTONICS AS A SCIENCE. THE METHODS AND THE HISTORY OF GEOTECTONICS. Geotectonics as a Science. The Principal Stages in the History of Geotectonics and Its Present State. THE STRUCTURE AND COMPOSITION OF THE EARTH'S INTERIOR. THE ORIGIN OF THE EARTH. The Structure and Composition of the Earth's Interior; the Energy and the Age of the Earth. The Origin of the Earth; the State and Composition of Its Material. THE CHIEF STRUCTURAL FORMS OF ROCKS. Primary Structural Forms. Secondary Structural Forms; Plastic Dislocations. Secondary Structural Forms; Disruptive Dislocations. Tectonic Changes in the Internal Structure of Rocks. Structural Complexes. Types of Tectonic Movement. OSCILLATORY TECTONIC MOVEMENTS. Current and Recent Oscillatory Movements. Oscillatory Movements of the Earth's Crust in Past Geologic Periods. The Facies and Thicknesses of Deposits in Relation to Oscillatory Crustal Movements. The Methods of Studying Oscillatory Movements. Some General Features of the Oscillatory Movements of the Earth's Crust. The History of Oscillatory Movements. Fundamental Concepts of Sedimentary Sequences. TECTONIC MOVEMENTS IN FOLDING. The Basic Principles of the Deformation of Solid Bodies. The Conditions Governing the Formation of Discontinuous and Intermediate Folds. Some Problems of the Mechanics of Continuous Fold Formation. The Formation of Continuous Folds in Time and Space. Folded Zones and Platforms. The Development of Folding in Geosynclines and Its Relationship to Oscillatory Movements. The Origin of Continuous Folding. The Dynamic Classification of Folds; the Unity of the Process of Folding. TECTONIC MOVEMENTS PRODUCING RUPTURE. Some Aspects of the Physical Theory of Failure in Solid Bodies. The Mechanics of Tectonic Fracturing. Tectonic Conditions Producing Faults. Faults and Tectonic Stress Fields. Deep Fractures and the Fundamental Divisibility of the Earth's Crust. IGNEOUS ACTIVITY AND GEOTECTOGENESIS. Intrusive Igneous Activity. Extrusive Igneous Activity. A General Survey of Igneous Activity and the Conditions under which It Develops; Some Geochemical Problems. A GENERAL VIEW OF THE GEOTECTONIC PROCESS AS A WHOLE AND OF THE PRESENT TECTONIC STRUCTURE OF THE EARTH. The Tectonics of the Oceans. A General Survey of the Geotectonic Process as a Whole. The Principles of Geotectonic Regionalization. A Brief Survey of the Present Tectonic Structure of the Earth. THE CAUSES OF GEOTECTONICS. The Principal Geotectonic Hypotheses. The Most Recent Concepts of the Causes of Tectonic Processes. Bibliography. Index of Geographic Names.

DE SITTER—Structural Geology

By L. U. DE SITTER, University of Leiden. *Int'l Series in Earth Sc.*

558 *pp.,* 6 *x* 9, *illus.* (1956).....$12.75*r*

The author draws on his exceptionally wide, practical experience in order to establish a much-needed link between the theory and practice of orogenesis. Starting with the physical properties of rocks, the book deals in considerable detail with comparative structural geology, proceeding from simple to more complex structures, and finally defines some characteristics of the largest units and theories concerning their origin.

CONTENTS—THEORETICAL STRUCTURAL GEOLOGY. Physical Properties of Rocks. Strain of Rocks in Laboratory Experiments. Experimental Tectonics. Rock Behaviour in Tectonic Processes. Rock Fracturing and Distortion. Structural Petrology. Cleavage, and Schistosity. COMPARATIVE STRUCTURAL GEOLOGY. Origin of Faults. Joint Patterns and Fault Patterns. Normal Faults. Wrench Faults. Great Fundamental Faults. Principles of Folding. Concentric Folds and Associated Faults. Cleavage and Shear Folds. Disharmonic Folds. Thrust Faults. Diapiric and Collapse Structures, Domes, and Cauldrons. Gravitational Gliding Tectonics. Syntectonic and Post-Tectonic Sediments. Contorted Beds. Microfolds, Macrofolds, and Faults. The Interference of Structure of Different Phases. GEOTECTONICS. Magmatic Phases in Orogenesis. The Intercontinental Mountain Chains of the Mediterranean Type. The Circum-Continental Chains of America. Island Area. Shields. Basin Structures. Blocks. Relation in Time and Space of Orogenies. Theories of the Cause of Orogeny. Synthesis. List of References. Index.

RUSSELL—Structural Geology for Petroleum Geologists

By WILLIAM L. RUSSELL, Texas Agricultural and Mechanical College.

427 *pp.*, 6 *x* 9, 134 *illus.* (1955).....$8.95*c*

Presenting the structural data and information which petroleum geologists and students of petroleum geology need to know in order to practice their profession, the author of this book eliminates topics that have no actual relation to oil work, and makes use of the added space to write at length on pertinent subjects. The problems, illustrations, and text material have been especially selected to convey a three-dimensional concept to the reader, and a laboratory section is incorporated to help him acquire the techniques for representing structural conditions.

CONTENTS—Introduction. Maps and Cross Sections. Physical Principles and Model Studies. Folds. Faults. Joints and Fractures. Unconformities. Salt Domes. Buried Hills and Compaction. Sedimentary Structures. Structural Significance of Lithology. Regional Structures. Superficial Structures. Structure of Continental Shelves. Dating Structural Events. Classification of Traps for Oil and Gas Accumulation. Structural Factors in Petroleum Prospecting. Laboratory Problems. Index.

SHROCK—Sequence in Layered Rocks

By ROBERT R. SHROCK, Massachusetts Institute of Technology.

507 *pp.*, 6 *x* 9, 397 *illus.* (1948)....$10.00*c*

A field manual of structural geology, designed for advanced geology students. Presents new methods for determining the order of succession in layered rocks, especially where the strata are steeply inclined or vertical. The book contains extensive descriptions and illustrations of all the common, and many of the uncommon, features in rocks of all kinds, sedimentary, igneous, or metamorphosed. Many verbatim descriptions of actual examples from all over the world are included.

CONTENTS—Introduction. Gross Relationships. Features of Sedimentary Rocks (I): Lithological—Textural—Mineralogical Sequences. Features of Sedimentary Rocks (II): Features on Upper- and Undersurfaces of Sedimentary Beds. Features of Sedimentary Rocks (III): Internal Features. Features of Igneous Rocks. Features of Metamorphosed Rocks. Bibliography. Index to References. References. Index.

TURNER AND WEISS—Structural Analysis of Metamorphic Tectonites

By FRANCIS J. TURNER and LIONEL E. WEISS, Department of Geology, University of California, Berkeley. *Int'l Series in Earth Sc.*

560 *pp.*, 6 *x* 9, 269 *illus.* (1963)....$17.50*c*

This graduate text and reference describes the concepts and methods relating to the study and interpretation of fabric of naturally deformed rocks. It describes in detail the analysis of tectonite fabric on all scales, from a geologic map to a microsection. It treats the nature of the fabric data, their geometric treatment in projection, and their interpretation in the light of experimental findings, stress-strain theory, and symmetry arguments. A special feature of the book is an analysis of the geometric properties of folds and of associated foliations and linear structures, illustrated throughout by the use of equal-area projection. The reader is also provided with the first available summary of the background afforded by laboratory experimentation (mainly in the United States) over the past few decades.

CONTENTS—Introduction. Scope of Structural Analysis. THE TECTONITE FABRIC AND ITS GEOMETRIC ANALYSIS. Internal Order in Deformed Geologic Bodies: The Tectonite Fabric. Graphic Treatment of Fabric Data. Mesoscopic Analysis—Descriptive. Macroscopic Analysis—Descriptive. Microscopic Analysis—Descriptive. DEFORMATION OF ROCKS: THEORY AND EXPERIMENT. Stress and Strain. Experimental Deformation of Minerals and Rocks. Microscopic Fabrics of Experimentally Deformed Rocks and Minerals: Prediction, Observations, and Inferences. INTERPRETATION OF TECTONITE FABRICS. Interpretation of Tectonite Fabrics—Principles. Interpretation of Microscopic Subfabrics: Preferred Orientation of Tectonite Minerals. Interpretation of Foliation (Schistosity) and Lineation. Folding in Tectonites: Interpretation of Folds as Heterogeneous Structures. Folding in Tectonites: Interpretation of Fold Systems. POSTSCRIPT. Trend of Structural Analysis.

Paleontology and Stratigraphy

AGER—Principles of Paleoecology

By D. B. AGER, Imperial College, London. *Int'l Series in Earth Sc.*

352 *pp.*, 6 *x* 9, 152 *illus.* (1963)....$10.75*c*

Subtitled, "An Introduction to the Study of How and Where Animals and Plants Lived in the Past," this book presents a lively and interesting approach to the study of paleoecology by treating fossils as living animals and plants rather than as dead museum specimens. The book represents the first attempt to present paleoecology as a coherent field of study. The vast subject matter resulting from ecological study of different plants and animals ranging back 500 million years is not covered descriptively, but in terms of methods. Each chapter discusses a different approach to paleoecology. These chapters culminate in a final chapter on paleoecological synthesis.

CONTENTS—Preface. INTRODUCTION. The Subject. The Nature and Classification of Environments. PALEOAUTECOLOGY. Comparison with Living Representatives. Deductions from Morphology. Orientation. Organic Associates. Evidence of Activity. Associated Sediments. Lateral Variation. Geographical Distribution of Single Taxonomic Groups. Changes in Habitat and Habit. PALEO-SYNECOLOGY. Comparison with Living Assemblages. Other Geological Evidence. Density and Diversity. Relationships between Species. Lateral and Vertical Changes in Assemblages. Geographical Distribution of Assemblages. Paleoecological Syntheses. REFERENCES. Glossary. Field Questionnaire.

COLBERT—The Dinosaur Book

By EDWIN H. COLBERT, American Museum of Natural History.

156 *pp.*, 7⅝ *x* 10⅝, *illus.* (1951)....$5.95*t*

Creates a vivid glimpse into the lost world of the geologic past when strange and fantastic creatures dominated the earth. With hundreds of photographs, line drawings, and charts, the author discusses the evolution of various types of dinosaurs and describes how they looked and lived, following their changes through the geological ages right down to their present-day survivors. Thoroughly indexed, with a glossary and guide to pronunciation of names, this book was previously issued privately by the American Museum of Natural History.

MOORE, LALICKER, AND FISCHER—Invertebrate Fossils

By RAYMOND C. MOORE, University of Kansas, C. G. LALICKER, Mayfair Minerals, Inc., Texas, and A. G. FISCHER, Princeton University.

765 *pp.*, 6 *x* 9, *illus.* (1952).....$13.50*c*

This valuable reference for geology students and practicing geologists in oil and other mineral industries covers the important groups of fossil invertebrate animals. It presents clearly explained, well illustrated accounts of structural characters, and treats growth stages, classification, mode of life and adaptation to environment, as well as geologic distribution and

evolutionary trends. Over 400 line drawings illustrate more than 2000 fossils, mostly in stratigraphically arranged groups accompanied by brief and helpful comments.

SHAW—Time in Stratigraphy

By ALAN B. SHAW, Pan American Petroleum Corporation. *Int'l Series in Earth Sc.*

In Press

Modern, graduate level text for courses in stratigraphy and paleontology which emphasizes an original, quantitative approach to the use of fossils in time-dating. The author argues that fossils have the requisite characteristics to serve as measures of geologic time. He presents a completely original graphic technique that makes possible time correlations on an absolute (but non-annual) geochronologic scale at high levels of accuracy. The author develops his thesis carefully and consistently, proceeding logically from conclusion to conclusion.

SHROCK AND TWENHOFEL—Principles of Invertebrate Paleontology

By ROBERT R. SHROCK, Massachusetts Institute of Technology and Harvard University, and WILLIAM H. TWENHOFEL, formerly University of Wisconsin. *Int'l Series in Earth Sc.*

816 *pp.*, 6 *x* 9, 470 *illus.* (1953) $13.50*c*

Here is a taxonomic treatment of the past life of 22 different phyla of invertebrates, from the protozoa to the hemichordates. Putting major emphasis on the fossil record, the authors have included also a good deal of material on soft part morphology and on zoology, to give a well-rounded picture. They treat each phylum according to its geological importance, and include a short chapter on the conodonts. Crammed full of diagrammatic figures, photographs, tables, and charts, this is a thoroughly systematic and comprehensive book that covers the whole range of invertebrate paleontology.

CONTENTS—Introduction. Protozoa. Porifera. Coelenterata. Ctenophora. Worm Phyla (Excluding Annelida). Bryozoa (Polyzoa). Phoronida. Brachiopoda. Mollusca. Annelida (Segmented Worms). Onychophora. Arthropoda. Echinoderma. Hemichordata. Conodontophoridia (Conodonts).

Sedimentation

TWENHOFEL—Principles of Sedimentation

By W. H. TWENHOFEL. Second Edition.

674 *pp.*, 6 *x* 9, 81 *illus.* (1950) $11.00*c*

Treats the source of sediments; environmental factors that influence their production, transportation, and deposition; various methods by which sediments are transported from source to site of deposition; products resulting from operation of sedimentary processes; and the various structures which arise as a consequence of deposition.

CONTENTS—Introduction. The Environmental Factors. Classification and Consideration of Environments. Origin of Inorganic Sediments. Interrelations of Organisms and Sediments. Transportation and Deposition of Sediments. Classification of Sediments and Sedimentary Rocks and Minerals. The Clastic Sediments. Sediments of Chemical Deposition: The Carbonate Sediments. Sediments of Chemical Deposition: Siliceous, Ferruginous, and Manganese Sediments. Sediments of Chemical Deposition: The Carbonaceous Sediments of Chemical Deposition: Evaporites. Sediments of Chemical Deposition: Miscellaneous Sedimentary Products. Structural Features of Sedimentary Origin. Textures and Colors of Sediments. Index.

TWENHOFEL AND TYLER—Methods of Study of Sediments

By W. H. TWENHOFEL; and S. A. TYLER, University of Wisconsin.

183 *pp.*, 6 *x* 9, *illus.* (1941) $5.95*c*

A brief, nonmathematical treatment of standard methods of sampling for various types of sediments; methods of analyses are given, and various forms of graphical representation of the characteristics of sediments and sedimentary rocks are shown. The discussions of coal and oil shales and of igneous rocks as sources of sediments are especially noteworthy.

CONTENTS—The Field Study of Sediments; Collection of Samples and Specimens; Preparation of Sediments for Analysis; Mechanical Analysis of Sediments; Separation of Minerals of Sediments; Quantitative Determination of Mineral Content; Graphical Representation of Sediments; Chemical Methods of Mineral Separation; Various Physical Properties of Sediments; Coals; Thin Sections, Mounting of Mineral Grains and Peels.

Engineering Geology

KRYNINE AND JUDD—Principles of Engineering Geology and Geotechnics

Geology, Soil and Rock Mechanics, and Other Earth Sciences as Used in Civil Engineering

By D. P. KRYNINE, Consulting Foundation Engineer, Berkeley, California, and W. R. JUDD, The Rand Corporation. *Series in Civ. Engg.*

699 *pp.*, 6 *x* 9, 480 *illus.* (1957) . . . $11.50*cL*

The main purpose of this text is to teach engineers what they should know about geology and other earth sciences; and to educate geologists and other earth science specialists in those phases of civil engineering applicable to their work. The first eight chapters contain general geotechnical information applicable to any structure. The following ten chapters present the use of this information in the design and construction of particular engineering structures such as buildings, bridges, dams, tunnels, runways, and highways. A separate chapter considers construction in the arctic. The final chapter is devoted to the legal aspects of geotechnics.

CONTENTS—Preface. Acknowledgements. Introduction: Earth Sciences in Engineering. Rocks and Minerals. Engineering Properties of Rocks. Formation and Engineering Use of Soils. Elements of Soil Mechanics. Subsurface Water. Subsurface Exploration. Maps and Airphotos. Rock as a Construction Material. Tunnels. Frost and Permafrost. Shore-line Engineering and River Improvement. Elements of Sedimentation Engineering. Buildings: Site Exploration and Foundations. Bridges and Pavements. Masonry Dams: Geotechnical Studies. Earthwork. Landslides and Other Crustal Displacements. Earthquakes and Aseismic Design. Some Legal Aspects of Geotechnics. Index.

LEGGET—Geology and Engineering

By ROBERT F. LEGGET, National Research Council, Ottawa, Canada. *Int'l Series in Earth Sc.* Second Edition.

896 *pp.*, 6 *x* 9, 360 *illus.* (1962) $12.50*c*

Shows civil engineers—in practice as well as students—the vital connection between geology and the practice of the art of civil engineering. It reviews all main branches of civil engineering with special reference to the significance of geology in their execution, supported by a brief introduction to geology as a science and supplemented by factual information of use in utilising geology in civil engineering. The material in this second edition is completely rewritten and rearranged to reflect the great advance in the study and use of soil mechanics as a scientific aid to civil engineering.

CONTENTS—Scope. Foreword by Professor P. G. H. Boswell. Preface. The Civil Engineer and Geology. Geology: An Outline of the Science. Soils: Their Origin and Deposition. Soil Mechanics and Geology. Groundwater. Preliminary and Exploratory Work. Geophysical Exploration. Materials of Construction.

Tunnels. Open Excavation. Earth Movement and Landslides. Building Foundations. Foundation of Dams. Reservoirs and Catchment Areas. Water Supply. Transportation Routes. Foundations of Bridges. Marine Works. Erosion and Silting. The Civil Engineer as Geological Agent. Appendixes: Short Glossary of Geological Terms. Geological Surveys of the World. Geological Societies and Sources of Information. References Cited in Text.

Geochemistry

FYFE—Geochemistry of Solids

By WILLIAM S. FYFE, Univ. of California, Berkeley.

In Press

Modern elementary texts in mineralogy, chemistry, and geochemistry do not discuss the fundamental features of solid state chemistry in any detail. This book is designed to fill this gap as supplementary material in any basic courses offered on the above subjects. Solids are explained here in terms of the two major types of bonding forces, electrostatic and exchange. An introduction to defects in lattices and reactivity is presented. Many examples are drawn from mineralogy.

Geophysics

CAGNIARD—Reflection and Refraction of Progressive Seismic Waves

By L. CAGNIARD, Centre d'Etudes Geophsiques, Paris. Translated and revised by EDWARD A. FLINN, United Electro Dynamics, Inc., and C. HEWITT DIX, California Institute of Technology. *Int'l Series in Earth Sc.*

304 *pp.*, 6 *x* 9, 80 *illus.* (1962).....$11.00*c*

A translation and revision of one of the great fundamental discussions of seismic waves. This book provides the classic exact, rigorous, solution of the fundamental problem of theoretical seismology: impulsive radiation from a point source in a space composed of two different semi-infinite media. In this edition, minor changes have been made in the text, the notation has been extensively revised for the convenience of the reader, and notes and expository appendices have been added. Numerical tables have been included for readers who wish to compute solutions for particular cases. This edition also contains graphs of some of the theoretical results for particular cases. Professor Cagniard has contributed two appendices in which additional topics are developed. A bibliography is included.

CONTENTS—Notation: Partial Differential Equations in Infinite Media. Boundary Conditions at a Plane Surface Separating Two Media. Vibrating Sphere in an Infinite Homogeneous Medium. Definition of the Point Source II. Initial Conditions. The Method of Integration. Determination of the Exponential Coefficients. Determination of the Transmission Factor $B(\tau)$. Study of the Transmission Factor $B(\tau)$. Solution of the Other Integral Equations. Behavior of the Ensemble of Different Wave Fronts. Definitive Justification of the Solution. Importance of the Conical Wave Fronts. The Static Problem: The Limiting Case. The Particular Case of the Harmonic Steady State. The Progressive Wave When the Second Medium Is a Vacuum. Kinematic Discontinuities. Primary Terms. The Progressive Wave When the Second Medium Is a Vacuum (Continued). The Rayleigh Wave. Progressive Waves When the Second Medium Is a Vacuum (Continued). The Second Surface Wave. The Progressive Wave When the Second Medium Is a Vacuum (Concluded). The Spherical Distortional Pseudo-wave. The Case in Which the Second Medium Is a Fluid. Further Consideration of the Case of Two Solid Media.

DOBRIN—Introduction to Geophysical Prospecting

By MILTON B. DOBRIN, United Geophysical Corporation. Second Edition.

446 *pp.*, 6 *x* 9 (1960).....$9.95*c*

Presents the principles and current techniques of geophysical prospecting for oil and minerals for students who are preparing to enter the fields of petroleum or mineral exploration and to technical personnel employed in these fields who feel the need for on-the-job training in the geophysical aspects of their work. The book covers all the major methods of geophysical prospecting, and for each method it discusses fundamental physical principles, instruments, field techniques, reduction of data, interpretation, and examples showing results of actual surveys. In the Second Edition the last three chapters have been omitted and new material, largely for the use of practicing geophysicists and geologists, has been added.

CONTENTS—Preface. Introduction. Seismic Wave Propagation. Earthquakes and the Structure of the Earth. Seismic Instruments and Seismic Surveys. The Seismic Refraction Method. The Seismic Reflection Method. Interpretation and Geologic Coordination of Reflection Data. Fundamental Principles of Gravity Prospecting. The Earth's Gravity and the Concept of Isostasy. Instruments for Measuring Gravity. Gravity Field Measurements and Reductions. The Interpretation of Gravity Data. Magnetic Prospecting: Fundamental Principles and Instruments. The Magnetism of the Earth. Magnetic Measurements on Land and Interpretation of Vertical-Field Data. Prospecting with the Air-Borne Magnetometer. Electrical Prospecting Methods. Prospecting for Radioactive Minerals. Integration of Geophysical Methods as Illustrated by Case Histories.

EWING, JARDETZKY, AND PRESS—Elastic Waves in Layered Media

By W. MAURICE EWING, Lamont Geological Observatory and Columbia University, WENCESLAS S. JARDETZKY, Manhattan College and Lamont Geological Observatory, and FRANK PRESS, California Institute of Technology. Lamont Geological Observatory Contribution No. 189. *Int'l Series in Earth Sc.*

380 *pp.*, 6 *x* 9, 154 *illus.* (1957)....$12.50*r*

This work is the outgrowth of a plan to make a uniform presentation of the investigations on earthquake seismology, underwater sound, and model seismology carried on by the group connected with the Lamont Geological Observatory of Columbia University. The scope was subsequently enlarged to cover a particular selection of related problems. Both the experimental and theoretical aspects of the subject are fully covered.

CONTENTS—Preface. List of Symbols. Fundamental Equations and Solutions. Homogeneous and Isotropic Half Space. Two Semi-infinite Media in Contact. A Layered Half Space. The Effects of Gravity, Curvature, and Viscosity. Plates and Cylinders. Wave Propagation in Media with Variable Velocity. Appendix A. Method of Steepest Descent. Appendix B. Rayleigh's Principle. Index.

HEISKANEN AND VENING MEINESZ—The Earth and Its Gravity Field

By W. A. HEISKANEN, Institute of Geodesy, Ohio State University; Finnish Geodetic Institute, Helsinki, and F. A. VENING MEINESZ, University of Utrech. *Int'l Series in Earth Sc.*

470 *pp.*, 6 *x* 9, *illus.* (1958).....$14.00*c*

A very advanced volume which presents important new conclusions about the way the earth tends toward equilibrium, and about the character and size of deviations from this equilibrium. The book is written mostly on the ground of the studies of this century carried out by several scientists, particularly by the authors themselves during the last 30 years. Among the recent advances covered are: the global significance of the pendulum apparatus of Vening Meinesz for gravity observations at sea; the invention of the fast and handy gravimeters of

Worden, LaCoste, and others; and the tying of the gravity base stations of the world to the same world gravimetric system which have made the physical geodesy possible.
CONTENTS—Introduction and Summary. Internal Constitution of the Earth. Gravity Field and Gravity Potential of the Earth, Equilibrium Figure, Earth Ellipsoid, Gravity Measurements. Historical Development of the Idea of Isostasy. Reduction of the Gravity Measurements. Gravity Anomalies. Achievements of Isostasy. Physical Geodesy. World Geodetic System. Deviations from Isostatic Equilibrium. Convection Currents in the Earth. Origin of Continents and Oceans. Great Geosyncline Belts. Polar Migrations. Shear Pattern of the Earth's Crust.

HOWELL—Introduction to Geophysics
By BENJAMIN F. HOWELL, JR., The Pennsylvania State University. *Int'l Series in Earth Sc.*
416 *pp.*, 6 x 9 (1959).....$9.95*c*
Familiarizes the reader with the scope of geophysics in relation to the other sciences, gives him some insight into the methods used by geophysicists to study the earth, and outlines some of the most important discoveries of these researches. In scope, the book is restricted largely to the physics of the solid earth in contrast to the physics of the atmosphere and hydrosphere.
CONTENTS—Preface. Introduction. Origin of the Earth. Origin of the Moon. Geochronology. Temperature of the Earth. Seismic Waves. Observational Seismology. Cause of Earthquakes. Instrumental Seismology. Transmission of Seismic Waves. Data Derived from Seismology. Mass, Moment, Shape and Size of the Earth. Density and Elastic Constants. Measurements of Gravity. Isostasy. Tectonic Forces. Origin of the Continents. Continental Drift. Tectonic Patterns. Typical Tectonic Profiles. Cause of Mountain Building. Geomagnetism. Terrestrial Electricity. Geomagnetic and Geoelectric Instruments. Index.

JACOBS, RUSSELL AND WILSON—Physics and Geology
By J. A. JACOBS, University of British Columbia, R. D. RUSSELL, University of British Columbia, J. TUZO WILSON, University of Toronto. *Int'l Series in Earth Sc.*
424 *pp.*, 6 x 9, *illus.* (1959).....$9.95*c*
This comprehensive text, for senior undergraduate or first-year graduate students, describes the nature, composition, and behavior of the earth by integrating available information from geophysics, geology, and geochemistry. Special emphasis is given to the solid earth, although certain aspects of the physics of the upper atmosphere are also included. Subjects from pure geology and others from geophysics are overlapped in an attempt to unite the two disciplines. The book describes the whole earth, from its deep interior to its outer atmosphere. Three chapters are devoted to the geology of the ocean basins, and such vital subjects as isotope geology, paleomagnetism, etc., are covered in considerable detail.
CONTENTS—Preface. The Universe and the Solar System. Seismology and the Interior of the Earth. Composition of the Earth. The Figure of the Earth and Gravity. Thermal History of the Earth. Geomagnetism. Physics of the Upper Atmosphere. Geochronology. Isotope Geology. Mechanical Behavior of Earth Materials. Investigation of the Ocean Floors. The Ocean Floors. The Mid-ocean Ridges. Island Arcs and Mountains. Inactive Mountains and Continents. Origin of the Earth's Surface Features. Glaciology. Appendixes. Index.

MUSKAT—Physical Principles of Oil Production
By MORRIS MUSKAT, Gulf Research and Development Company, Pittsburgh. *Int'l Series in Pure and App. Physics.*
922 *pp.*, 6 x 9, 364 *illus.* (1949)....$18.50*c*
A specialized and exhaustive treatise on the geophysics and technology of petroleum deposits. Standard reference for graduate courses in soil mechanics, hydrology, and soil seepage problems as well as for practicing petroleum engineers. Provides a thorough exposition of the physical concepts and principles underlying the production of oil and gas from underground reservoirs.
CONTENTS—Introduction. The Physical Properties and Behavior of Petroleum Fluids. The Properties of Oil-bearing Formations Pertaining to Oil Production; Core Analysis. Basic Dynamical Equations for Homogenous Fluid-flow Systems. Individual Well Problems in Uniform Strata with Homogenous Fluid Flow. Strata of Nonuniform or Anistropic Permeability with Homogenous Fluid Flow. Dynamical Foundations for Heterogeneous Fluid-flow Phenomena. Steady State Heterogenous-flow Systems: The Productivity Index. General Reservoir Mechanics. Gas-drive Reservoirs. Complete-water-drive Reservoirs. Secondary Recovery. Condensate Reservoirs. Well Spacing. Recovery Factors and Recoverable Reserves. Appendixes. Index.

NETTLETON—Geophysical Prospecting for Oil
By L. L. NETTLETON, Gravity Meter Exploration Co., Houston, Texas.
444 *pp.*, 6 x 9, *illus.* (1940).....$10.00*c*
Provides in a single volume a connected presentation of the principles and practice of modern oil prospecting by geophysical methods. Particular care has been taken to explain clearly the necessary procedures for reducing field measurements to usable form.
CONTENTS—Introduction; Gravitational Methods; Fundamental Principles and Units; Gravity of the Earth; Direct Gravity-measuring Instruments; The Reduction of Gravity Measurements; The Eotvos Torsion Balance; Gravity Calculations and Interpretation; Isostasy; Appendix; Tables of Normal Gravity; Gravity Terrain Correction Charts and Tables; Magnetic Method; Fundamental Principles and Units; Magnetism of the Earth; Geomagnetic Measuring Instruments; Reduction of Magnetometer Observations; Magnetic Calculations and Interpretation; Seismic Methods; Fundamental Principles; Theory of Refraction Shooting; Reflection Shooting; The Reduction of Seismic Observations; Seismic Apparatus; Seismic Field Operations and Interpretation; Appendix; Derivation of Equations for Equal Time Circles; Electrical and Miscellaneous Methods and Measurements in Drill Holes; Electrical Prospecting Methods; Electrical Well Logging; Miscellaneous Prospecting Methods and Operations in Wells; Geophysical Interpretation.

OFFICER—Introduction to the Theory of Sound Transmission
By C. F. OFFICER, formerly Rice Institute; Woods Hole Oceanogrophic Institution. *Int'l Series in Earth Sc.*
284 *pp.*, 6 x 9 (1958).....$10.50*i*
This text will acquaint the reader with the theory of sound transmission to the point where he will feel at ease with published material in the field. The author applies the theory specifically to a description of sound transmission in the ocean. Wherever possible the physical explanations of the theoretical results are given. This is the first book to relate the theory to the developments made in sound transmission through the ocean over the past 20 years.
CONTENTS—Preface. Fundamental Relations. General Theory. Transmission in Shallow Water. Transmission in Deep Water. Reflectivity. Attenuation. Index.

Petroleum Geology

RUSSELL—Principles of Petroleum Geology
By WILLIAM L. RUSSELL, Texas Agricultural and Mechanical College. Second Edition.
503 *pp.*, 6 x 9, 141 *illus.* (1960).....$9.95*c*
Here is a comprehensive survey of petroleum geology. It discusses important principles,

processes, and techniques; it covers every aspect of the subject, from the origin and accumulation of oil to the future prospects of petroleum geology. The book includes recent advances in all branches of petroleum geology, and it stresses all information which helps the geologist locate oil or gas fields.

CONTENTS—Preface. The Science of Petroleum Geology. Subjects Related to Petroleum Geology. Chemistry of Natural Hydrocarbons. Physical Properties of Petroleum. Oil-field Waters. Methods of Representing Geological Conditions. Structures Important in Petroleum Geology. Reservoirs and Reservoir Rocks. Classification of Traps for Oil and Gas Accumulation. Subsurface Pressures. The Origin of Petroleum. Migration and Accumulation of Oil and Gas. Relation of Oil and Gas Production to Incipient Metamorphism of Sediments. Relations of Oil and Gas Fields to Unconformities. Depositional Features. Surface Indications. Salt Domes. Lithologic Well Logs. Electrical Well Logs. Radiation or Nuclear Well Logs. The Correlation of Well Logs. The Use of Geochemistry in the Search for Oil and Gas. Magnetic, Gravimetric, and Electrical Geophysical Methods. Geophysics—Seismic Methods. The Development of Oil and Gas Fields after Discovery. Summary of Methods of Locating Stratigraphic Traps. The Search for Oil on the Continental Shelves. The Appraisal of Oil and Gas Prospects. The Future of Petroleum Geology. References. Index.

Economic Geology

LINDGREN—Mineral Deposits

By WALDEMAR LINDGREN. Fourth Edition.

930 *pp.*, 6 *x* 9, 333 *illus.* (1933)....$13.50*r*

This volume by an international authority brings to geologists and mining engineers information on the occurrence, structure, and origin of the principal deposits of metallic and non-metallic minerals, except coal and petroleum. Genetic arrangement has been used throughout. The treatment from the scientific viewpoint has been maintained to give the student a clear insight into the geologic relationship of the various deposits. A full index of the literature, international in scope, is included, and many illustrations.

TOLMAN—Ground Water

By C. F. TOLMAN.

593 *pp.*, 6 *x* 9, 189 *illus.* (1937)....$11.50*c*

A technical treatment of the science of locating and estimating supplies of water underground and their availability for use at the surface, giving in detail the information needed by the student or practicing engineer or geologist who wishes to work out problems in ground water hydrology.

CONTENTS—Introduction. Résumé of Elements of Ground-water Hydrology and Application to Ground-water Litigation. Brief Review of Rainfall, Runoff, Evaporation, and Transpiration. Hydrologic Properties of Water-bearing Materials, Except Soils. The Soil. Occurrence of Water and Forces Acting in the Zone of Aeration. Influent Seepage Including Water Spreading. Percolation. Ground-water Turbulent Flow, and Permeability. The Water Table in Granular Previous Material. Ground Water in Fractures and Solution Openings. Confined Water. Geological Classification of Artesian Aquifers. Wells. Oil-field Fluids. Springs. The Ground-water Inventory. Ground-water Provinces of the United States and Hawaiian Islands.

HEINRICH—Mineralogy and Geology of Radioactive Raw Materials

By E. W. HEINRICH, University of Michigan. *Int'l Series in Earth Sc.*

614 *pp.*, 6 *x* 9, 201 *illus.* (1958)....$17.50*i*

A reference and sourcebook in the field of radioactive mineralogy and geology which may also serve as a textbook in intermediate to advanced courses in this field, or as a supplementary text in the field of economic geology. It provides a comprehensive survey of all the many radioactive minerals, their properties and manner of occurrence, together with the descriptive and genetic geology of radioactive mineral deposits of economic and scientific importance—both deposits of uranium and thorium. This book is the first attempt to gather together the enormous volume of factual and theoretical information that has appeared on radioactive minerals and their deposits since the exceedingly intensive study of uranium and thorium began in the late 1940s.

CONTENTS—Preface. MINERALOGY. Radioactive Minerals. Descriptions of Radioactive Minerals. GEOLOGY. Radioactive Mineral Deposits—General. Syngenetic Deposits in Igneous Rocks. Radioactive Pegmatite Deposits. Carbonatites and Related Deposits. Pyrometasomatic and Other High-intensity Hydrothermal Deposits. Mesothermal Deposits. Epithermal Deposits. Epigenetic Stratiform Deposits in Sedimentary Rocks. Uraniferous Phosphorites. Uraniferous Marine Black Shales. Placer Deposits of Radioactive Minerals. Radioactive Hydrocarbons. Deposits Formed by Weathering and Ground-water Action. Bibliography. Index.

Mineralogy

KRAUS, HUNT, AND RAMSDELL—Mineralogy

An Introduction to the Study of Minerals and Crystals

By EDWARD H. KRAUS, WALTER F. HUNT, and L. S. RAMSDELL, University of Michigan. Fifth Edition.

666 *pp.*, 6 *x* 9, 736 *illus.* (1959).....$9.75*c*

A well-known college text and reference for practicing geologists. It has always been popular for its extensive use of halftone cuts of crystal models to supplement the conventional line drawings of crystals which many students have difficulty in visualizing correctly. Photographs and short biographical sketches of distinguished mineralogists constitute another feature of this book.

CONTENTS—Introduction. Crystallography. Cubic System. Hexagonal System. Tetragonal System. Orthorhombic System. Monoclinic System. Triclinic System. Compound Crystals. Physical Properties. Optical Mineralogy. Crystal Structure and X-ray Analysis. Chemical Mineralogy and Crystal Chemistry. Formation and Occurrence of Rocks and Minerals. Qualitative Blowpipe Methods. Descriptive Mineralogy: Native Elements. Sulfide and Sulfo Minerals. Oxides and Hydrated Oxides. Haloids. Nitrates, Carbonates, and Borates. Sulfates, Chromates, Molybdates, and Tungstates. Phosphates, Arsenates, and Vanadates. Silicates. Gemstones. Classification of Minerals According to Elements. Glossary. Tabular Classification of the 32 Classes of Symmetry. Tables for the Determination of Minerals. Selected Bibliography. Index.

GRIM—Clay Mineralogy

By RALPH E. GRIM, University of Illinois. *Int'l Series in Earth Sc.*

384 *pp.*, 6 *x* 9, *illus.* (1953).....$12.00*c*

This distinguished text by a world authority presents all available data on the atomic structure, composition, physical characteristics, origin, and occurrence of clay minerals. Consideration is given to the occurrence of specific clay minerals in rocks and soils of various kinds and of varying geologic age. The physical and chemical factors determining the formation of clay minerals are also discussed. The book is carefully prepared, clearly presented, and well illustrated with drawings and tables of data.

CONTENTS—Preface. Introduction. Concepts of the Composition of Clay Materials. Classification and Nomenclature of the Clay Minerals. Structure of the Clay Minerals. X-ray Diffraction Data. Shape and Size—Electron Micrographs. Ion Exchange. Clay-water Systems. Dehydration, Rehydration, and Changes Taking Place of Heating. Clay-mineral—Organic Reactions. Optical Properties. Miscellaneous Properties. Origin and Occurrence of the Clay Minerals. Index.

GRIM—Applied Clay Mineralogy

By RALPH E. GRIM, University of Illinois. *Int'l Series in Earth Sc.*

432 *pp.*, 6 *x* 9, 127 *illus.* (1962)....$13.00*c*

Analyzes the fundamental structure and composition of clay materials in relation to their specific uses, discussing why some clay materials are satisfactory for certain uses and not for others. The specific factors of composition which determine use are analyzed on structural grounds rather than on the basis of colloid chemistry. The book emphasizes the use and applications of clay minerals in industry and research.

CONTENTS—Preface. Introduction. Structures and Properties of the Clay Minerals. Clays in Ceramic Properties. Clays in Foundry Molding Sands. Clay Mineralogy in Relation to the Engineering Properties of Clay Materials. Clays in the Discovery and Recovery of Petroleum. Clays in Refining and Preparation of Organic Materials. Clays in Miscellaneous Uses.

DAKE, FLEENER, AND WILSON—Quartz Family Minerals

By H. C. DAKE, *The Mineralogist*, FRANK L. FLEENER and BEN HUR WILSON, Joliet Junior College.

304 *pp.*, 5½ *x* 8 (1938).....$5.75*t*

Gives both the amateur and the student definite information concerning the varieties of quartz, its location and composition, its place in history and economics, and the proper methods of cutting and polishing.

CONTENTS—Preface. List of Illustrations. Why Know Quartz? The Historical Lore of Quartz. The Way to Quartz. The Matter of Crystallization. The Quartz Crystal. The Crystalline Forms of Quartz. The Massive Forms of Quartz. The Cryptocrystalline and Amorphous Forms of Quartz. Agate—Chalcedony. Geodes and Thunder Eggs. Unusual Quartz Types. The Opal. Silicification and Petrified Forests. The Art of Cutting Quartz Gems. Index.

ENGLISH AND JENSEN—Getting Acquainted with Minerals

By GEORGE LETCHWORTH ENGLISH and DAVID E. JENSEN. Revised Edition.

336 *pp.*, 6 *x* 9, 250 *illus.* (1958).....$7.50*t*

A comprehensive book for beginner or advanced mineral collector. Over 250 photographs and drawings of rare, unusual, and common minerals. Tells what equipment is needed, where to find, how to buy minerals, how to examine and test them, what crystals are and where to find them. Easy-to-read tables identify over 500 different types of minerals by hardness, color and easily determined characteristics. This book has been a standard handbook in its field for many years. The enlarged and fully revised, up-to-date edition will make it even more valuable to collectors.

CONTENTS—ABOUT MINERALS IN GENERAL. Why Study Minerals. How to Collect Minerals. Specimen Preparation, Storage and Display. Why Buy Minerals and Which Ones, of What Is a Mineral Made. Hardness, or the Meaning of Scratch Test. Tenacity—the Way a Mineral Holds Together. Crystals—The Flowers of the Mineral Kingdom. Fascinating Sometric Crystals. Four Systems of Crystals. The Pranks of Crystals. How and Where Minerals Occur. How Minerals Break—Cleavage, Fracture and Parting. The Wonderful Structure of Minerals. Mineral Mimics, Marvelous Contacts of Light with Minerals. Fluorescence and Other Color Phenomena. Radioactive Minerals and Atomic Energy. Why Minerals Vary in Weight. Gem Cutting Reveals Hidden Beauties. DESCRIPTIONS OF MINERALS. Introduction. Description of Minerals—Alphabetical Arrangement. Arrangement According to the Dana System. Rock-forming Minerals. Minerals Grouped According to Their Important Elements with a Brief Summary of the Important Uses of Each Element and Its Compounds. Hydrocarbons. DESCRIPTION OF ROCKS. Igneous Rocks. Sedimentary Rocks. Metamorphic Rocks. APPENDICES. Identification of Minerals. Pronouncing Vocabulary.

KRAUS AND HUNT—Tables for the Determination of Minerals

By Means of Their Physical Properties, Occurrences, and Associates

By EDWARD H. KRAUS and WALTER F. HUNT, University of Michigan. Second Edition.

266 *pp.*, 6 *x* 9 (1930).....$7.50*c*

As a result of extensive experience in the laboratory and field, luster and color have been made the fundamental basis of these tables, further subdivisions being introduced by the streak and hardness. Minerals with similar physical properties are thus grouped together, aiding the student materially to acquire the necessary facility to make rapid distinctions. This will aid successful determination of minerals at sight.

CONTENTS—Preface. Introduction—Physical Properties: Luster; Color; Streak; Hardness; Crystallization; Structure; Cleavage; Parting; Fracture; Tenacity; Transparency and Diaphaneity; Play or Change of Color; Opalescence; Iridescence; Tarnish; Asterism; Taste; Odor; Feel or Touch; Magnetism; Specific Gravity. Glossary. Directions for Using the Tables. General Classification and Analytical Key: Minerals with Metallic Luster; Minerals with Non-metallic Luster; Table of Minerals Arranged According to Increasing Specific Gravity—with Chemical Composition and Other Physical Properties. Index.

KRAUS AND SLAWSON—Gems and Gem Materials

By EDWARD H. KRAUS and CHESTER B. SLAWSON, University of Michigan. Fifth Edition.

325 *pp.*, 6 *x* 9, *illus.* (1947).....$7.50*i*

Provides anyone for whom gems are a business or a hobby with a complete reference on precious and semi-precious stones. Describes sixty-five minerals used as gems, and classifies practically every gem and gem material according to various properties.

CONTENTS—Crystal Forms. Physical Properties. Optical Properties. Crystal Structure and X-ray Methods. Chemical Properties. Formation and Occurrence of Gem Minerals. Cutting and Polishing of Gems. Manufactured Gems. Metals Used for Gem Mountings. Description of Individual Gems. Classification of Gem Materials According to Various Properties—Crystal Systems. Hardness. Specific Gravity. Color. Miscellaneous Physical Properties. Optical Character. Indices of Refraction, Birefringence, Dispersion, Pleochroism, Composition. Summary of Properties.

Petrology, Petrography, and Optical Mineralogy

HEINRICH—Microscopic Petrography

By E. W. HEINRICH, University of Michigan.

296 *pp.*, 6 *x* 9, *illus.* (1956).....$7.50*c*

Provides for students of mineralogy, petrography, and geology a complete treatment of the microscopic investigation of igneous, sedimentary, and metamorphic rocks. The book describes all major types of rocks in each group, chiefly from the microscopic viewpoint and with emphasis on the employment of thin sections in their study. In addition, considerable material is provided on the interpretation of the genesis of the rocks based upon their mineralogies and textures.

CONTENTS—Methods of Microscopic Study. Igneous Rocks—General. Descriptions of Igneous Rocks. Sedimentary Rocks—General. Descriptions of Sedimentary Rocks. Metamorphic Rocks—General. Descriptions of Metamorphic Rocks. Bibliography.

HUANG—Petrology

By WALTER T. HUANG, Baylor University.

523 *pp.*, 6 *x* 9, 133 *illus.* (1962).....$9.75*c*

Attempts to summarize modern petrology from the viewpoint of petrogenesis. Igneous, sedimentary, and metamorphic rocks are discussed

in turn and as much attention is given to the field occurrence as to their mineralogical and chemical characters. A simple guide of determination of the three divisions of rocks is given and each is aided by a newly designed determinative table for megascopic identification. The treatments of igneous and metamorphic rocks have been written in accord with modern concepts. The presentation of sedimentary rocks emphasizes the concept that they are products of heritage and environment.

CONTENTS—Preface. Introduction. THE IGNEOUS ROCKS. The Mineralogical Composition of Igneous Rocks. Characteristics and Classification of Igneous Rocks. Description of Igneous Rocks. Petrogenesis of the Igneous Rocks. THE SEDIMENTARY ROCKS. Composition, Fabrics, and Bodies of Sedimentary Rocks. Classification and Description of Sedimentary Rocks. Sedimentation and Related Processes. THE METAMORPHIC ROCKS. Scope of Metamorphism. Classification and Description of Metamorphic Rocks. Metamorphism, Magma, and Orogeny. LIST OF REFERENCES. INDEX.

KERR—Optical Mineralogy

By PAUL F. KERR, Columbia University. Third Edition. *Previous Editions by Austin F. Rogers and Paul F. Kerr.*

442 *pp.*, 6 *x* 9, 429 *illus.* (1959).....$8.95*c*

This extensive revision of Rogers and Kerr's well-known work covers the tremendous amount of new data, discoveries, and developments in equipment and techniques which have appeared since the last edition. The book explains the use of the polarizing microscope in the study of transparent minerals. The optical properties of common minerals are given and the optical principles are explained. Tables are provided to aid identification. The book serves as a text for laboratory classes in optical mineralogy and provides a useful reference book wherever the polarizing microscope is employed.

CONTENTS—Preface. Abbreviations. MINERAL OPTICS. Mineral Preparations for Microscopic Study. The Polarizing Microscope. A Summary of the Properties of Light. Refraction. Plane Polarized Light in Minerals. Convergent Polarized Light. The Universal Stage. General Features: Color, Mode of Aggregation, Cleavage and Orientation. Mineral Fragments. Systematic Identification. MINERAL DESCRIPTIONS. Introduction to Part Two. Elements of Hydroxides. Carbonates, Sulfates, and Phosphates. Silicates: Framework Structures (Tectosilicates). Silicates: Chain Structures (Inosilicates). Silicates: Single, Multiple, and Ring SiO_4 Structures (Neso-, Soro-, and Cyclosilicates). Silicates: Sheet Structures and Mineraloids. Index.

TURNER AND VERHOOGEN—Igneous and Metamorphic Petrology

By FRANCIS J. TURNER, and JOHN VERHOOGEN, both University of California, Berkeley. *Int'l Series in Earth Sc.* Second Edition.

694 *pp.*, 6 *x* 9 (1960).....$12.50*c*

Almost completely rewritten, this Second Edition includes recent developments in experimental petrology and geo-chemistry. The section on metamorphic petrology has been thoroughly updated and new material has been added to the section on igneous petrology. The discussion of basalts and equivalent plutonic rocks has been thoroughly revised and rearranged, and a new chapter on nepheline syenites and carbonatites has been added. New data relating to the chemical composition and distribution of minor elements in typical igneous rock series are also included.

CONTENTS—Prefaces. Introduction. Principles of Chemical Equilibrium Applied to Rocks. Characteristics and Classification of Igneous Rocks. Variation in Associated Rocks. Crystallization of Igneous Minerals from Silicate Melts. Crystallization of Basaltic and Granitic Magmas in the Light of Experimental Data. The Alkaline Olivine-Basalt Volcanic Association. Tholeiitic Flood Basalts and Intrusive Quartz Diabases. Potash-rich Basic Volcanic Rocks and the Lamprophyres. Volcanic Associations of Orogenic Regions. Basic and Ultrabasic Plutonic Associations. The Granite Granodiorite Plutonic Association. Nepheline Syenites, Ijolites, and Carbonatites. Pegmatites. Environment, Origin, and Evolution of Primary Magmas. Scope of Metamorphism and Classification of Metamorphic Rocks. Chemical Principles of Metamorphism. Metamorphic Zones and Metamorphic Facies. Facies of Contact Metamorphism. Facies of Regional Metamorphism. Chemical Changes Accompanying Metamorphism. The Fabric of Metamorphic Rocks. Special Features of Fabric of Deformed Rocks. Metamorphism in Relation to Magma and to Orogency. Index.

Crystallography

AZÁROFF—Introduction to Solids

By LEONID V. AZÁROFF, Illinois Institute of Technology.

460 *pp.*, 6 *x* 9, *illus.* (1960).....$10.50*c*

This study of solid state is based on the premise that the one thing the majority of solids of practical importance have in common is that they are crystalline. The importance of crystallography has long been recognized. But this is the first attempt to use the crystallinity of solids as a framework for discussing their nature and properties. The book concentrates on the structure, nature, and properties of inorganic crystalline solids. It covers virtually all important aspects of solid state.

CONTENTS—Preface. Introduction. Geometrical Crystallography. The Structure of Crystals. Atomic Packings in Crystals. Imperfections in Atomic Packings. Mechanical Properties of Crystals. Formation of Crystals. Transformations in Crystals. The Bonding of Atoms. Properties of Metals. Structure of Metals. Properties of Semiconductors. Structure of Semiconductors. Properties of Insulators. Structure of Insulators. Appendix 1. Physical Constants. Appendix 2. Conversion Units. Appendix 3. Atomic Radii. Appendix 4. Space-group Symbols. Index.

AZAROFF AND BUERGER—The Powder Method in X-Ray Crystallography

By LEONID V. AZAROFF, Illinois Institute of Technology, and MARTIN J. BUERGER, Massachusetts Institute of Technology.

342 *pp.*, 6 *x* 9, 137 *illus.* (1958).....$9.95*c*

This book contains a complete exposition of the principles and utilization of the powder method, which is the analysis of polycrystalline materials by means of x-ray diffraction methods and which is extensively used in industry, research laboratories, and universities. A unique feature of the book is a detailed discussion of the indexing of powder photographs for all possible symmetries. This includes mention of all the indexing schemes devised to date. Detailed examples in the text illustrate virtually all principles and a complete collection of charts for laboratory exercises in indexing procedures is included.

CONTENTS—Preface. Introduction. Elementary X-Ray Diffraction Theory. Principles of Powder Photography. The Design and Alignment of Powder Cameras. Procedures for Taking Powder Photographs. Relation of Spacings to Cell Geometry. Interpretation of Powder Photographs. Analytical Methods for Indexing Powder Photographs. The Reciprocal Lattice. Indexing Powder Photographs with the Aid of the Reciprocal Lattice. Reduced Cells and Their Application. Homogeneous Axes and the Delsunay Reduction. Identification of Substances by the Powder Method. The Sources of Accuracy. Appearance of Powder Photographs. Appendices. Index.

McLACHLAN—X-ray Crystal Structure

By DAN McLACHLAN, JR., Stanford Research Institute.

416 *pp.*, 6 *x* 9, 366 *illus.* (1957)....$16.00*r*

Shows how to determine the atomic positions within a crystalline material, using x-ray data obtained from single crystals. Stresses the theory of space groups, single crystal cameras, Fourier methods, computing devices, the phase problem, and particular examples. Such computing devices as Robertson's Strip Method, the Bragg-Huggins Mask, the Sand Machine, the Utah Computer, are fully described; and a final chapter provides examples of six crystalline materials whose structures have already been determined.

Oceanography

KING—Introduction to Oceanography

By C. A. M. KING, Univ. of Nottingham, England.

352 *pp.*, 6 *x* 9 (1963).....$7.95*c**

Sufficiently elementary for a one-semester course in the subject at the freshman-sophomore levels, the text will also be useful as a supplement in a variety of survey courses in the physical and life sciences. The text begins with a discussion of the origin and pattern of major ocean basins and changes in sea level throughout recent geological time. It proceeds, in sequence, to discuss the following topics: the shape of the ocean floor; ocean water, temperature and salinity; the major water masses; oceanic circulation; and a discussion of marine biology. In the final chapter, the author points out the importance of the oceans in such fields as meteorology, transport, food supply, and cooperation among nations. The treatment is non-mathematical, up to date, and balances its emphasis of the biological, physical, and geological aspects of the subject.

** Restricted to Western Hemisphere and Phillipines, except Canada and British areas.*

Geologic Literature

PEARL—Guide to Geologic Literature

By RICHARD M. PEARL, Colorado College.

239 *pp.*, 6 *x* 9 (1951).....$7.95*c*

A guidebook to the extensive and complex world literature of geology, its subdivisions and its related fields. It includes all published literature in every language, from the earliest dates to current material of vital significance. Branches of geology and related fields are given attention, rather than individual subjects. The book will indicate to the reader the status of any type of geologic literature.

CONTENTS—PART I. INTRODUCTION. The Problem of Geologic Literature. Conducting the Search. PART II. LIBRARY FACILITIES. Arrangement of the Library. Library Catalogues. Indexing. Library Services. PART III. KINDS OF GEOLOGIC LITERATURE. Index Guides and Bibliographies. Abstracts. Periodicals. United States Government Documents. Organization Bulletins. State Bulletins. County and City Bulletins. Bulletins of Other Countries. Books. Newspapers. Theses. Unpublished Manuscripts. Maps. Index.

Meteorology

BERRY, BOLLAY, AND BEERS—Handbook of Meteorology

Edited by F. A. BERRY, JR., U.S. Navy Weather Central, Washington, D.C., E. BOLLAY, E. Bollay Associates, Inc. Santa Barbara, Cal., and N. R. BEERS, Assisted by a Staff of Specialists.

1116 *pp.*, 5¾ *x* 8¾, 730 *illus.* (1945)

$22.50*hb*

This complete handbook constitutes an invaluable text and reference book covering the entire subject of meteorology and presenting a wealth of authoritative information needed by both the beginner and the expert in the field. Every section is profusely illustrated with selected photographs, maps, sketches, and line drawings.

CONTENTS—Numerical and Graphical Data. Meteorological Mathematics and Calculations. Physics of Atmospheric Phenomena. Radiation. Meteorological Thermodynamics and Atmospheric Statics. Kinematics and Dynamics of Fluid Flow. The Scientific Basis of Modern Meteorology. Meteorological Instruments. Transmission and Plotting of Meteorological Data. Synoptic Meteorology and Weather Forecasting. Clouds and States of the Sky. Climatology. Hydrometeorology. Oceanography.

BYERS—General Meteorology

By HORACE ROBERT BYERS, The University of Chicago. Third Edition.

540 *pp.*, 6 *x* 9 (1959).....$10.50*c*

An introductory text for serious students of meteorology which presents the material in reasonably complete and exact scientific, quantitative form, yet at a level that any physical science student above the freshman level can understand.

CONTENTS—Preface. The Sun and the Earth. The Nature of Radiation. The Heat Balance of the Atmosphere. The Distribution of Temperature. Observations and Station Instruments. Upper-air and Cloud Observations. Thermodynamics and Statics. Water Vapor and Its Thermodynamic Effects. Horizontal Motion in the Atmosphere—The Winds. Characteristics of Fluid Flow Applied to the Atmosphere. The General Circulation. Vertical Structure of Cyclones and Anticyclones. Development and Life Cycle of Cyclones. Air Masses and Their Structure. Outline of Synoptic Analysis. Tropical Meteorology. Quantitative Approaches to Forecasting. Condensation, Precipitation, and Atmospheric Electricity. Thunderstorms and Related Phenomena. Fog. Turbulence. Index.

CAUDLE—Workbook in Elementary Meteorology

By FREDERICK L. CAUDLE, Wisconsin State Teachers College, Oshkosh.

191 *pp.*, 8 *x* 10½, 43 *illus.* (1945)....$2.95*c*

Designed to develop skill in map interpretation, the decoding of weather reports, the plotting of surface and balloon observations, and in handling meteorological mathematics problems.

DONN—Meteorology—with Marine Applications

By WILLIAM L. DONN, Lamont Observatory and Brooklyn College. Second Edition.

465 *pp.*, 5¾ *x* 8¾, *illus.* (1951).....$8.00*c*

A general introduction to meteorology. The book considers observational and theoretical aspects of the basic weather elements. A thorough discussion is given of the primary and secondary wind systems of the earth, and there is an extended treatment of the hurricane.

CONTENTS—Introduction and Basic Principles. Heat and Temperature of the Air. Humidity. Atmospheric Equilibrium—Stability and Instability. Condensation and Precipitation. Clouds and Thunderstorms. Atmospheric Pressure. Winds—Observation and Theory. Primary or Terrestrial Wind Circulation. Secondary Winds. Tropical Cyclones—Hurricanes. Weather Coding and Notation. Air Masses and Fronts. Development and Structure of Cyclones. Weather Analysis and Interpretation. Optical Features of the Atmosphere. The Oceans. APPENDIX. Teletype Sequence Code. Tables of Average Weather Summaries for Principal Ports and Islands. Visual Aids.

HALTINER AND MARTIN—Dynamical and Physical Meteorology

By GEORGE J. HALTINER and FRANK L. MARTIN, U. S. Naval Postgraduate School, Monterey, California.

470 *pp.*, 6 *x* 9, 247 *illus.* (1957)....$11.00*c*

Here is a comparatively simple, thoroughly up-to-date textbook intended primarily for meteorology majors. In general only those phases of physical meteorology that are more closely linked with dynamic meteorology are included. The authors develop most topics from first principles and bring the subject to a point near its present stage. Mathematical techniques have been kept fairly simple, and little mathematics beyond differential and integral calculus is used.

CONTENTS—Preface. Vector Operations. Thermodynamics of Dry Air. Moist Air. Hydrostatic Equilibrium; Geopotential Determinations. Vertical Stability and Convection. The Nature of Radiation. Solar Radiation and the Earth-atmosphere System. Terrestrial Radiation. Some Synoptic Consequences of Terrestrial Radiation. The Mean Heat Balance of the Earth-atmosphere System. The Equation of Motion. Horizontal Frictionless Flow. Variation of the Wind and Pressure Fields in the Vertical. Wind Structure on the Friction Layer. Diffusion of Heat and Water Vapor. Diffusion of Atmospheric Pollutants. Frontogenesis. Surfaces of Discontinuity. The Mechanism of Pressure Change. Vorticity and Circulation. The Perturbation Theory. Dynamic Forecasting by Numerical Methods. The General Circulation. Index.

HAURWITZ AND AUSTIN—Climatology

By BERNARD HAURWITZ, High Altitude Observatory, University of Colorado, and JAMES M. AUSTIN, Massachusetts Institute of Technology.

410 *pp.*, 5¾ *x* 8¾, 39 *illus.*, 17 *maps* (1944) $9.50*c*

Intended primarily as an introduction to climatology for the meteorologist, this book stresses the physical causes of the climates and of the variations of the climatic elements in space and time. The descriptions of the various climates are given in meteorological language with emphasis upon the interpretation in terms of dynamics of the atmosphere of air mass types and frontal activity.

CONTENTS—General Climatology: Solar Radiation and Terrestrial Heat Balance; Temperature; Wind and Pressure; Hydrometeors; Air Masses, Fronts, Cyclones, and Anticyclones; Climatic Zones and Types; Description of the Climatic Types; Microclimatology; Regional Climatology: North and Central America; New Zealand; Arctic and Antarctic; Oceania Regions.

KIMBLE—Our American Weather

By DR. GEORGE H. T. KIMBLE, University of Indiana. *Maps* and *charts* by JEAN PAUL TREMBLAY, American Geographic Society.

322 *pp.*, 5½ *x* 8, *illus.* (1955).....$4.95*td*

One of America's foremost authorities on weather here dissects American weather in all its vicissitudes and variations, and provides answers to the hundred and one questions Americans are always asking about the weather. He describes what to expect weatherwise for each month in the year, explores weather seasonally and regionally and answers such questions as when to expect the first frost, or where to take a vacation in January. Few people can combine literacy, wit, and sound authority as well as Dr. Kimble and transform an everyday subject into one of complete fascination.

PETTERSSEN—Weather Analysis and Forecasting

By SVERRE PETTERSSEN, University of Chicago. Second Edition.

Volume I—Motion and Motion Systems

446 *pp.*, 6 *x* 9 (1956).....$10.50*c*

Constitutes a general and very complete text on forecasting that aims at minimizing the difference between synoptic and dynamic meteorology. The emphasis in this volume is on the dynamics of atmospheric processes. It covers, from basic equations of hydrodynamics to techniques for forecasting, the development and movement of pressure systems at all levels.

CONTENTS—Basic Equations; Kinematics of Quasi-horizontal Motion; Kinematics of the Pressure Field; Wind in Relation to Pressure; The Influence of Friction; Vertical Structure of Wind Systems; Circulation and Vorticity; The Theory of Long Waves; Extension of the Theory of Upper Waves; Computation of the Movement of Pressure Systems; Fronts and Frontogenesis; The Structure of Extra-tropical Cyclones and Anticyclones; Behavior of Cyclones and Anticyclones; Vertical Velocity and Divergence; Instability Theories of Cyclone Formations, by Dr. Arnt Eliassen; Development of Cyclones and Anticyclones; Examples of Cyclone Development; Numerical Forecasting, by Dr. Arnt Eliassen; Graphical Integrations. Appendixes. Name Index. Subject Index.

Volume II—Weather and Weather Systems

266 *pp.*, 6 *x* 9 (1956).....$7.50*c*

Deals with the synoptic approach to weather forecasting. The emphasis is on the thermodynamics of atmospheric processes. The book begins with a treatment of the exchange processes and develops the theory of air masses and thermodynamic processes.

CONTENTS—Preface; List of Symbols. Production and Transformation of Air Masses; Temperature and Humidity Relationships; Clouds and Precipitation; Quantitative Precipitation Forecasting; Mist, Fog, and Stratus; Convective Clouds and Weather; Weather Systems; Local Forecast Studies; Application of Synoptic Climatology to Weather Prediction; Appendix. Weather Symbols. Name Index. Subject Index.

PETTERSSEN—Introduction to Meteorology

By SVERRE PETTERSSEN, University of Chicago. Second Edition.

327 *pp.*, 6 *x* 9, 216 *illus.* (1958)....$7.50*c*

This edition answers the same need for an introductory text as its predecessor. The completely revised book takes into account the great strides made in meteorological research and applies knowledge of weather and climate to all walks of life. Much space is devoted to the interactions between the earth's surface and the atmosphere and the economic value of weather and climate is stressed.

CONTENTS—The Atmosphere. Instruments and Observations. Clouds and Precipitation. Condensation and Precipitation Processes. Heat and Temperature Changes. Radiation and Exchange of Heat. Showers, Thunderstorms, Hail, and Tornadoes. Haze, Mist, Smog, and Fog. The Laws of Motion. Local Wind Systems. The Major Wind Systems. Air Masses. Fronts and Frontogenesis. Cyclones and Anticyclones. Tropical Disturbances, Storms, and Hurricanes. Temperature Regimes. Precipitation Regimes. World Climates. From Weather Lore to Forecasting. Explanations of Some Technical Words. Recommended Books. Conversion Factors and Tables.

RIEHL—Tropical Meteorology

By HERBERT RIEHL, Colorado State University.

392 *pp.*, 6 *x* 9, 245 *illus.* (1954)....$10.50*c*

The purpose of this volume is to provide general information for all who have some basic knowledge of meteorology and to furnish the professional meteorologist with the tools necessary for working in low latitudes. The book covers all aspects of atmospheric conditions in the tropics—climates on a broad scale, local climate, clouds and rain producing processes, weather disturbances, monsoons, tropical storms, and the setting of the tropics in the world-wide air circulation.

CONTENTS—Winds and Pressure. Temperature. Rainfall. Diurnal and Local Effects. Convection. The Physics of Tropical Rain (by Raymond Wexler).

Weather Observations and Analysis. Divergence and Vorticity. Waves in the Easterlies. Survey of Low-latitude Disturbances. Tropical Storms. The General Circulation.

SUTTON—Micrometeorology

A Study of Physical Processes in the Lowest Layers of the Earth's Atmosphere

By O. G. SUTTON, Military College of Science, Shrivenham, England.

333 *pp.*, 6 *x* 9, 71 *illus.* (1953).....$9.95*c*

The book is concerned with the special branch of meteorology relating to air layers near the ground. Its purpose is to give the reader a general account of the properties of these layers, and also to provide training in the specialized techniques which have been evolved to solve problems arising in agricultural meteorology, hydrology, and air pollution. It gives both the theoretical basis and the practical methods. As a textbook, it gives the student enough background for independent work in this growing field, and as a reference book for the research worker, it presents an integrated account of the major developments in this field up to 1950. CONTENTS—Preface. The Atmosphere at Rest. The Atmosphere in Motion. (1) Laminar Flow. The Atmosphere in Motion. (2) Turbulent Flow. Heat Transfer and Problems of Diffusion. Radiation. The Temperature Field in the Lowest Layers of the Atmosphere. Diffusion and Evaporation. Index.

Chemistry

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HANDBOOK OF CHEMISTRY

Compiled and edited by NORBERT A. LANGE, Registered Professional Engineer. Tenth Edition.
1969 *pp.*, 5⅝ *x* 7¾, *illus.* (1961).....$11.00*hb*†

A vast compilation of facts, data, tabular material, and experimental findings covering every aspect of chemistry. From simplest conversion tables for weights and measures to an encyclopedic listing of over 6500 organic compounds with their important physical constants, virtually any fact, formula, description, or laboratory method required for the solution of chemical problems can be found here. Hundreds of pages cover chemical and physical properties of classified substances—elements, minerals, inorganic and organic compounds, and industrial materials. Included also are detailed tables of specific properties such as solubility, density, electrical and thermal properties, refractivity, vapor pressure, and viscosity. A valuable working tool not only for the calls for a background in the properties of chemical products.

chemist, chemical engineer, research worker, and technician, but also for those whose work CONTENTS—Life and Fire Hazards. Chemical and Physical Properties of Classified Substances. Elements. Minerals. Inorganic Compounds. Organic Compounds. Industrial Materials. Chemical Analysis. Miscellaneous Tables of Specific Properties. Conversion Factors and Numerical Tables.

HANDBOOK OF ANALYTICAL CHEMISTRY

Edited by LOUIS MEITES, Polytechnic Institute of Brooklyn; prepared by a Staff of Specialists.
1788 *pp.*, 6 *x* 9, 59 *illus.* (1963).....$47.50*hb*

This practical reference is written for the analytical chemist who designs methods of chemical analysis, for the chemical analyst who puts these methods into practice, and for the scientist or engineer who uses or interprets the results. The book is divided into two major sections: the

† *Textbook edition available at educational list price.*

first section is written from the point of view of the analytical technique employed and includes information on all of the techniques of chemical analysis that have received important practical applications. These techniques, of which 60 are included, range in age and complexity from qualitative inorganic analysis to electron spin resonance, and include techniques of identification, of separation, and of determination. The second section is written from the point of view of the sample being analyzed, and deals with the determination of specific materials and with the analysis of specific technical materials. It covers the most common applications of inorganic, organic, and biochemical analysis. It includes summaries of practical methods, information regarding interferences in these methods, and references to sources of further and more detailed information for the guidance of the occasional analyst. Fully covers such new developments and techniques as: nonaqueous and chelometric titrations, chronopotentiometry, electrochemistry in fused salt media, near- and far-infrared spectroscopy, flame photometry, and much more.

CAVELTI—Introductory General Chemistry

By JOHN E. CAVELTI, Allegheny College.

423 *pp.*, 50 *illus.* (1952).....$6.95*c*

This is a short, general chemistry designed to hold and stimulate student interest—from the story of how the word "atom" was coined, to the final challenging problem. Written for a terminal course or for a chemistry major's first course, it presents chemical principles and their applications in everyday living in an easy, colorful style.

CONTENTS—The Background of Chemistry; Measurements and Method in Scientific Work; The Commonest Element, Oxygen; Another Gaseous Element, Hydrogen; The Nature of Gases; Concerning Atoms and Molecules; The Two Compounds of Hydrogen and Oxygen; The Aerial Ocean and Its Constituents; The Particles Atoms Are Made of; The Structure of Atoms; The Formation of Compounds; The Release of Energy; The Nature of the Solid State; Solutions. Their Nature, Properties, and Laws; Some Important but Slightly Complicated Ions; Reactions Depending on the Mobility of Electrons and of Protons; Speed and Balance in Chemical Reactions; The Extremes of the Periodic System; Chemicals from Salt and Sea Water; Sulfur, An Element Essential to Modern Industry; Phosphorus and Fertilizers; Metallurgy, Old and New; Iron and Aluminum; Magnesium and Calcium; Hard Water and Its Cure; Carbon and Silicon, Glass and Ceramics; A Bit About Organic Chemistry; The Rest of the Periodic System; Appendix: Questions Involving Arithmetic; Table of Atomic Weights. Index.

HILLER AND HERBER—Principles of Chemistry

By L. A. HILLER, University of Illinois; and R. H. HERBER, Rutgers University.

735 *pp.*, 6 *x* 9, *illus.* (1960).....$7.95*c*

A quantitative treatment of the fundamentals needed to build a sound background for science students. Designed expressly for the well-prepared student, the text minimizes descriptive material, and seeks to teach general chemistry by teaching general principles. The authors present systematically the principles that underlie all fields of chemistry except biochemistry, and apply these principles to specific problems covering a wide range of interest.

CONTENTS—PART 1. THE PROPERTIES OF CHEMICAL SUBSTANCES. Review of Fundamental Concepts. The Covalent Bond. Organic Chemistry. The Ionic Bond. Inorganic Compounds and Their Reactions. The Solid State. The Kinetic Theory of Gases. Liquids and Changes of State. The Properties of Metals. PART 2. THE DYNAMICS OF CHEMICAL CHANGE. The Nature of Chemical Equilibrium. Heterogeneous Equilibria and the Properties of Solutions. Ionic Equilibria in Aqueous Solutions. Chemical Thermodynamics. Oxidation-Reduction Reactions. Chemical Kinetics and Catalysis. Radiochemistry and the Nuclear Properties of Matter. APPENDIX. A Short Review of Mathematical Operations. BIBLIOGRAPHY. INDEX.

JONES—General Chemistry

By W. NORTON JONES, JR., McMurry College.

906 *pp.*, *illus.* (1954).....$7.95*c*

Covers the bulk of theoretical material in the first part of the book. Here the chemical behavior of each element or family is discussed in the light of electronic configuration and periodic relationships. Atomic structure, the periodic chart, and elements of the third family are presented next.

CONTENTS—Science and Chemistry. The Properties and Composition of Matter. Measurement and Calculation. The Structure of the Atom. Atomic Structure as Related to Chemical Change. The Periodic Classification of the Elements. Sodium and Its Compounds. Some Chemical Relationships of Mass and Energy. The States of Matter—Gases. Chlorine and the Chlorides. The Liquid State of Matter. Magnesium and Its Compounds. The Solid State of Matter. Aluminum and Its Compounds. Solutions. Silicon and Its Compounds. Electrolytes and Electrolytic Solutions. Phosphorus and Its Compounds. Sulfur and Its Compounds. The Oxygen Compounds of Chlorine. Chemical Equilibrium. Equilibria Involving Electrolytes. Hydrogen and Its Compounds. Nitrogen and the Member of the V A Family. Oxygen and the Members of the VI A Family. The Halogens, Members of the VII A Family. The Colloidal Condition of Matter. Carbon, Its Oxides, and Related Compounds. Aliphatic Hydrocarbons and Their Derivatives. Aromatic and Other Cyclic Compounds and Their Derivatives. Some Applications of Organic Chemistry. Boron and the Members of the III A Family. The Alkali Metals and Their Compounds. The Alkaline Earth Metals and Their Compounds. Metallurgy—Germanium, Tin, Lead, and Their Compounds. The Transition Elements —Groups III B to VII B, Inclusive. The Transition Elements—The Metals of the VIII B Family. The Transition Elements—The Metals of the I B Family. The Metals of the II B Family and Their Compounds. The Radioactive Elements and Nuclear Transformations. The Inert Gases. Appendix. Index.

PRYOR—Mechanisms of Sulfur Reactions

By WILLIAM A. PRYOR, Purdue University. *Series in Adv. Chem.*

256 *pp.*, 6 *x* 9, 209 *illus.* (1962)....$11.50*i*

This monograph provides a theoretical framework for further study of the reactions of sulfur and sulfur compounds. A large number of reactions are organized into a few main categories on the basis of reaction types. Some of the reactions, such as vulcanization, are of enormous industrial importance. Rather than treat the subject as an empirical compendium, this text takes a comprehensive point of view and attempts to organize the discreet data into a logical mechanistic framework. Examples, not intended to be inclusive, are given to illustrate the theory.

CONTENTS—Preface. Introduction. Elemental Sulfur. Thiols, Disulfides and Polysulfides. The Reaction of Sulfur with Alkanes. The Reaction of Sulfur with Olefins to Produce Organic Sulfides and Polysulfides. Dehydrogenation by Sulfur at Elevated Temperatures. Oxidation by Polysulfide Solutions to Form Aldehydes, Carboxylic Acids or Carboxamides. Oxidation of Ketones to Thiazolines and a-Mercaptoketones. Oxidation at Atoms Other than Carbon. Experimental Procedures for Selected Sulfur Reactions. Compounds Which Have Been Oxidized by Sulfur or Polysulfide (Covers the Years 1947–1957). REFERENCES.

ROSSOTTI AND ROSSOTTI—The Determination of Stability Constants

By F. J. C. ROSSOTTI and HAZEL ROSSOTTI, Inorganic Chemistry Laboratory, Oxford, England. *Series in Adv. Chem.*

425 *pp.*, 6 *x* 9, 96 *illus.* (1961)....$12.50*c*

An advanced text on chemical equilibria in solution. This book attempts to give a comprehensive treatment of experimental and mathematical methods of studying all types of association in solution, i.e. simple mixed and polynuclear complexes of metal, ions, acid-base equilibria (including polyacids), molecular complexes, oligerimerisation of organic molecules, the binding of ions by polyelectrolytes, and protein-protein interaction.

CONTENTS—Introduction. Activity and Concentration Quotients. Basic Principles. Determination of Concentration. Variables Using Competitive Reactions. Computation of Stability Constants from the Functions $\bar{n}(a)$ and $a_c(a)$. Special Methods for Studying Inert Complexes. Potentiometry. Polarography and Amperometry. Solubility. Liquid-liquid Partition. Ion Exchange. Freezing Point, Boiling Point and Vapor Pressure. Optical and Spectroscopic Methods. Reaction Kinetics. Miscellaneous Methods. Polynuclear Systems; I. Self-Association. Polynuclear Systems;. II. Species B_pA_q. Mixed Complexes. List of Main Symbols. Index.

SIENKO AND PLANE—Chemistry

By M. J. SIENKO, Cornell University and R. A. PLANE, Cornell University. Second Edition.

623 *pp.*, 6⅜ *x* 9¼, 167 *illus.* (1961) $7.95*c*

Study Guide (Russell)

131 *pp.*, 7 *x* 10 (1963).....$2.50*c*

An extensive revision and improvement of this top-bracket textbook in college chemistry. The purpose is, as before, to present an introductory course which is quantitative, up to date, and of sufficient rigor to prepare the student for further work in the field. Neither the character nor the scope of the book has been changed, but the authors, together with scores of reviewers, have searched out all areas which could be improved upon, with the result that numerous changes in depth and lucidity have made this excellent text even better.

CONTENTS—PART I. PRINCIPLES OF CHEMISTRY. Methods of Chemistry. Nature of Matter. Atoms. Chemical Bond. Stoichiometry. Gases. Liquids. Solids. Changes of State. Solutions. Colloids. Chemical Kinetics. Chemical Equilibrium. Electrochemistry. PART II. CHEMICAL ELEMENTS AND THEIR COMPOUNDS. Hydrogen. Oxygen. Aqueous Solutions. The Alkali Metals. The Alkaline-earth Metals. Transition Elements I: Sc, Ti, Cr, and Mn Subgroups. Transition Elements II: Iron Triad and Platinum Metals. Transition Elements III: Copper and Zinc Subgroups. Group III Elements. Group IV Elements. Group V Elements. Group VI Elements. The Halogens. Organic Chemistry. Nuclear Structure and Radioactivity. APPENDIX. Exponential Numbers. Mathematical Operations. Definitions from Physics. Units. Vapor Pressure of Water. Oxidation Potentials. Equilibrium Constants. REFERENCES. INDEX.

TIMM—General Chemistry

By JOHN ARREND TIMM, Simmons College. Third Edition.

636 *pp.*, 6 *x* 9, 236 *illus.* (1956).....$7.95*c*

Laboratory Exercises in General Chemistry (Timm and Neal). Second Edition.

234 *pp.*, 8½ *x* 11, *illus.* (1956).....$3.95*c*

Presenting an introduction to modern theory and to the descriptive chemistry of the common elements, this text is designed for first-year study both by those who plan to take advanced chemistry courses and by those who elect this science for its value in a liberal arts program. The author employs "progressive repetition" throughout to help fix important material in the student's mind and to gradually increase his conception from a more qualitative to an increasingly quantitative one.

CONTENTS—Preface. Introduction. Matter. Atoms and Molecules. The Properties of Gases. The Kinetic-molecular Theory. Atomic and Molecular Weights. The Symbolism of Chemistry. The Periodic Table. Subatomic Particles. Atomic Structure. Valence. Oxidation Number. Chemical Reactions. Oxygen. Hydrogen. Water. Liquids. Solids. The Halogens—Group VII*b*. Solutions. Reaction Velocity and Equilibrium. Solutions of Electrolytes. Reactions of Acids and Bases. The Alkali Metals—Group I*a*. Sulfur and the Sulfides. Precipitation. Oxides and Oxygen Acids of Sulfur. Nitrogen and Ammonia. Oxides and Oxygen Acids of Nitrogen. Oxidation-Reduction and Electrochemistry. The Alkaline-earth Metals—Group II*a*. Phosphorus, Arsenic, Antimony, and Bismuth—Group V*b*. Boron and Aluminum—Group III*b*. Carbon, Silicon, Germanium, Tin, and Lead—Group IV*b*. Colloids. The Metals. Copper, Silver, and Gold—Group I*b*. Zinc, Cadmium, and Mercury—Group II*b*. Iron, Cobalt, and the Other Metals of Nickel—Group VIII. Chromium, Manganese, and Other Transition Metals. The Aliphatic Hydrocarbons and Their Derivatives. The Aromatic Hydrocarbons. Biochemistry. The Nucleus. Transmutation and Nuclear Energy. Appendix. Index.

WATT—Basic Concepts in Chemistry

By GEORGE W. WATT, The University of Texas.

538 *pp.*, 6 *x* 9, 80 *illus.* (1958).....$7.50*c*

College Chemistry Laboratory Manual (Watt and Morgan). Third Edition.

262 *pp.*, 8½ *x* 11, 50 *illus.* (1958)..$3.75*c*

Selectivity is the keynote of this introductory text for majors and nonmajors. The earlier chapters of the book are devoted to the presentation of basic ideas and concepts in as simple a fashion as seems possible and with a minimum of supporting descriptive information. In the intermediate chapters many of these concepts are the subject of expansion and elaboration as needed. The later chapters are concerned with descriptive material, but not with facts presented out of context. Rather, it is the purpose of these chapters to present a limited scope of descriptive chemistry on a generalized basis related to atomic structure and the periodic arrangement of elements.

CONTENTS—Preface. Orientation. Atoms and Molecules. The Structure of Atoms. Classification of Elements. Ionic Compounds. Covalent Compounds. Properties of Ionic and Covalent Compounds. Chemical Arithmetic. Gases. I. Physical Properties. Gases. II. Volume Relationships. Oxygen and Hydrogen. Properties of Liquids and Solids. Solutions and Colloids. Physical Properties of Solutions and Colloids. Solutions of Electrolytes. I. Acids, Bases, and Salts. Chemical Equilibrium. Solutions of Electrolytes. II. Ionization. Solutions of Electrolytes. III. Equilibrium in Solution. Energy and Chemical Changes. Electrochemistry. Oxidation-Reduction Reactions. The Non-transitional Elements. I. The Inert Gases. The Non-transitional Elements. II. Groups, 1, 2, and 3. The Non-transitional Elements. III. Group 4. The Non-transitional Elements. IV. Groups 5, 6, and 7. The Transitional Elements. Radioactivity. Appendix. Answers to Problems. Index.

WALKER, ASIMOV, AND NICHOLAS—Chemistry and Human Health

By BURNHAM S. WALKER, M.D., Ph.D., Burbank Hospital, Fitchburg, Massachusetts, and ISAAC ASIMOV, Ph.D., Boston University School of Medicine, and M. KOLAYA NICHOLAS, R.N., M.A., formerly, Jersey City Hospital School of Nursing.

445 *pp.*, 6 *x* 9 (1956).....$6.95*n*

This introductory text, organized on information obtained from educators in the field of nursing through a questionnaire prepared by one of the authors, will answer especially the needs of the student of nursing. Here is a text that describes and explains modern chemistry, both organic and inorganic, with particular emphasis upon and reference to the human body. The book devotes as much space to the discussion of organic chemistry and biochemistry as is given to the general principles of inorganic chemistry, and illustrates chemical principles and processes, where possible, by examples taken from life.

CONTENTS—The Experimental Method. Matter and Energy. Oxygen, Hydrogen, and Water. Metals and Nonmetals. Solutions and Ions. Acids and Bases. Organic Chemistry. Proteins and Enzymes. Carbohydrates and

Their Metabolism. Lipids and Their Metabolism. Protein Metabolism. Tissues and Body Fluids. Diseases of Metabolism. Chemical Defense against Infection.

ANDERSON—Chemical Calculations
By H. V. ANDERSON, Lehigh University. Sixth Edition.
305 *pp.*, 6 *x* 9, *illus.* (1955)
Cloth Edition $4.95*c*
*McG-H Paperbacks Ed.**
This is a helpful guide to the solving of problems in chemical calculations. Explanatory sections follow a logical sequence of development, and illustrative problems are solved in a step-by-step manner. The use of dimensional units as an aid in obtaining the correct solution to various problems is stressed, and the use of significant figures is emphasized. Each chapter begins with an outline of the material to be covered. Problems are included.
CONTENTS—Measures and Weights. Density. The Language of Chemistry. Gram-atom and Gram-mole. The Measurement of Temperature. Effects of Changes in Pressure and Temperature on the Volume of Gases. Mole-weight-gas-volume Relations. Derivation of Chemical Formulas. Chemical Equations. Nonredox Type. Oxidation-Reduction. Gram-equivalent. Molar and Normal Concentration. Principle of Equivalency. Combination of Gases. Thermochemical Reactions. Electrochemistry. Chemical Equilibrium: Reversible Reactions. Solubility-Product Principle.
* *Available only through your local bookstore.*

MacNEVIN—The Analytical Balance
Its Care and Use
By WILLIAM MARSHALL MACNEVIN, The Ohio State University.
60 *pp.*, 5½ *x* 8 (1951).....$3.00*i*
A practical guide to the care and use of the modern analytical balance. How to select, mount, clean, adjust, and test the balance are explained in simple, concise terms. The book also shows how to determine when repairs are necessary. These expert, step-by-step methods can lead to better performance and longer life for every kind of analytical balance in use today.
CONTENTS—PREFACE. Introduction. THE BALANCE. Inventory of Parts. Mounting, Cleaning, and Assembling. How to Use the Balance. Testing and Adjusting a Balance. ANALYTICAL WEIGHTS. Index.

HARRISON—A Laboratory Course in Chemistry
By LIONEL G. HARRISON, Univ. of British Columbia.
154 *pp.*, 6 *x* 9, *illus.* (1963).....$2.75*c*
This manual describes a course of experimental work which can be covered completely within one academic year. Qualitative analysis is placed right at the beginning and is treated more as a means of acquainting students with a wide range of chemical behavior than as an illustration of such principles as solubility product; thus the correlation of all the remaining types of experiment with lectures requires little effort of organization. The quantitative work is designed to be performed with inexpensive balances of similar construction to standard analytical balances but having appreciably less sensitivity.
CONTENTS—Inorganic Semimicro Qualitative Analysis. Simple Gravimetric Experiments. Volumetric Analysis. The Densities of Gases. Equilibrium. Descriptive Chemistry.

McCULLOUGH AND STONE—Experimental General Chemistry with Problems
By JAMES D. MCCULLOUGH and HOSMER W. STONE, Univ. of California, Los Angeles.
273 *pp.*, 7 *x* 10 (1963).....$3.50*c*
Based largely on the authors' *Experiments, Theory, and Problems in General Chemistry.* The purpose is to serve as a laboratory manual and problem workbook for the first semester of a course in general chemistry at the college level. The quantitative approach is emphasized. The student is encouraged to reason by way of the questions and problems in the reports and in the problem sets. The material has been completely rewritten.
CONTENTS—The Laboratory Burner and Balance. Weight Relations in Chemical Formulas and in Chemical Reactions. Gaseous State of Matter; The Ideal Gas Laws. Molecular, Atomic, and Equivalent Weights. Concentration of Solutions, Volumetric Analysis, Acids, Bases, and Salts. Electrolytes and Dissociation. Reaction Rate and Chemical Equilibrium. Oxidation and Reduction; Electrochemistry.

STONE AND McCULLOUGH—General Chemistry Laboratory Studies and Problems: with Tear-out Reports. Alternate Edition
320 *pp.*, 7 *x* 10 (1963).....$3.95*c*
This Alternate Edition of *Experimental General Chemistry with Problems* is distinguished by the inclusion of tear-out report sheets. The material is identical.

High School Chemistry

CHEMICAL BOND APPROACH PROJECT—Chemical Systems
By The CHEMICAL BOND APPROACH PROJECT.
In Press
Investigating Chemical Systems (Laboratory Guide).....*In Press*
Completely new textbook for high school chemistry courses with an organizational pattern that meets 20th century needs. Based on a central theme of chemical bonding, it emphasizes 3 features of the chemist's work (1) laboratory work to obtain data, (2) imagination to develop ideas, (3) combination of experimental data and imaginative ideas to further understanding of chemical systems.
CONTENTS—The Nature of Chemical Change. Electrical Nature of Chemical Systems. Models as Aids to the Interpretation of Systems. Bonds in Chemical Systems. Order, Disorder, and Change.

HALL, MADRAS, AND HOLCOMB—Semimicro Experiments in High School Chemistry and Laboratory Report Books
By GORDON HALL, Verdun High School, Montreal, DR. SAMUEL MADRAS, Sir George Williams University, Montreal, and DR. R. K. HOLCOMB, McGill University, Montreal.
176 *pp.*, 6 *x* 9, *illus.* (1961).....$2.50
Report Book I for Semi-micro experiments in High School Chemistry (1961)....$1.25
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LANFORD—Using Chemistry
By OSCAR E. LANFORD, New York State College for Teachers. 1959 Edition.
752 *pp.*, 6⅜ *x* 9¼, 362 *illus.* (1959)..$5.76*s*
Laboratory Manual (Ferris-Lanford).$1.96*s*
Tests (Ferris-Lanford).....$.88*s*

A high school chemistry text which emphasizes the principles of chemistry. The 1959 Edition presents new material reflecting recent developments and revised material to bring the text entirely up to date. It provides 253 additional questions and problems at the end of the Appendix, primarily for better students, but also challenging for classes with a wide range of ability. The new edition also offers a self-explanatory transvision of a *Nuclear Power Plant*, a new, up-to-date *Periodic Table of Elements*, with 102 elements given, including einsteinium, fermium, mendelevium, and nobelium, and a revision of some tables. A few illustrations have been replaced by new ones showing a rocket and a satellite, a cut-away cylinder of a V-8 engine, and equipment used to produce man-made industrial diamonds.

CONTENTS—The Fundamental Tools of the Chemist. Two Common Elements. Gases. Water and Solutions. Atomic Structure and Nuclear Energy. Some Theoretical Chemistry. Sulfur, Nitrogen, and Phosphorus. King Carbon. The Mineral Realm. Between Solutions and Mixtures. The Metals. Electrochemistry.

MADRAS, HALL AND HOLCOMB—Basic Modern Chemistry

By SAMUEL MADRAS, Sir George Williams University, Montreal; GORDON HALL, Verdun High School, Montreal; and ROBERT HOLCOMB, McGill University, Montreal.

468 *pp.*, 6 *x* 9, 160 *illus.* (1963)....$4.50

A modern introductory chemistry text for high school students. The purpose of the book is to resolve the main problems that confront the high school teacher in presenting the rather complex concepts of modern chemistry in a systematic and understandable way. In the early part of the book, the student studies the basic principles of classical chemistry; in the following chapters, atomic structure is presented, first through experimental evidence gathered by Rutherford, then on a theoretical level, using the orbital theory, based on energy levels. Using the orbital theory, sensible explanations of the periodic table, electronegativity, and chemical bonding are developed.

WEAVER AND FOSTER—Chemistry for Our Times

By ELBERT C. WEAVER, Phillips Andover Academy, Watertown, Massachusetts, and LAURENCE STANDLEY FOSTER, Atomic Energy Division, Watertown, Massachusetts Arsenal. Third Edition.

666 *pp.*, 6½ *x* 9¼, *illus.* (1960).....$5.96*s*

Laboratory Introduction to Chemistry (Weaver). Third Edition.

256 *pp.*, 8½ *x* 11, *illus.* (1960).....$2.60*s*

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Modern Chemistry

ROBERTSON—Modern Chemistry for the Engineer and Scientist

Edited by G. ROSS ROBERTSON, University of California, Los Angeles. *Univ. of Calif. Engg. Exten. Series.*

300 *pp.*, 6 *x* 9, 205 *illus.* (1957)....$10.00*iL*
*McG-H Paperbacks Ed.**

Nineteen nationally known chemists, both academic and industrial, summarize the accomplishments and the newer methods of their respective fields. Contributors: Kenneth S. Pitzer, Paul H. Emmett, W. Albert Noyes, Jr., Norman Davidson, Clifford S. Garner, Laszlo Zechmeister, Saul Winstein, Herman F. Mark, Nelson W. Taylor, Eugene G. Rochow, Theodore W. Evans, George C. Kennedy, John E. Dorn, Joseph A. Pask, Donald K. Tressler, Robert L. Metcalf, Gordon A. Alles, Theodore A. Geissman, and Linus C. Pauling.

CONTENTS—Chemical Thermodynamics; Twenty Years of Progress in Contact Catalysis; Photochemistry, Its Interest and Its Value; Chemical Kinetics and Fast Reactions; Isotopic Tracers in Chemistry; Column Chromatography and Some Applications in Stereochemistry; Organic Reaction Mechanisms; Fundamental Aspects of Rubber Elasticity; Carbon-Fluorine Compounds; Silicones; The Petrochemical Industry; Chemical Relations in the Earth; Creep of Metals as a Reaction-rate Phenomenon; Crystal Chemistry and Thermochemistry of Clay Materials; New Developments in Food Technology; Biochemistry of Pesticides; Some Relations between Chemical Constitution and Physiological Action; Chemical Synthesis in Living Organisms; The Configuration of Polypeptide Chains in Proteins.

** Available only through your local bookstore.*

Analytical Chemistry

DEAN—Flame Photometry

By JOHN A. DEAN, University of Tennessee. *Series in Adv. Chem.*

354 *pp.*, 6 *x* 9, *illus.* (1960).....$12.50*r*

A full-length treatment of a new and extremely popular analytical method used by chemists, clinicians, and biologists in both academic and industrial research. The book offers an approach based on modern flame photometry as practiced with equipment able to separate the many variables one from another; i.e., photomultiplier tubes as photodetectors, prisms (or gratings) with adjustable slit mechanisms to isolate the radiant energy, and combustible fuels of different adiabatic flame temperatures.

CONTENTS—THEORETICAL PRINCIPLES. Introduction. Atomization. Characteristics of Flames. Excitation of Metallic Spectra. The Use of Organic Solvents. INSTRUMENTATION AND TECHNIQUE. The Flame Photometer. Interferences. Evaluation Methods. Selection of Optimal Working Conditions. Absorption Flame Photometry. FLAME PHOTOMETRY APPLIED TO THE INDIVIDUAL ELEMENTS. Introduction to the Determination of the Elements. The Alkali Metals. Elements of Periodic Groups I-B and II-B. Magnesium and the Alkaline Earth Metals. Scandium, Yttrium, Lanthanum, and the Rare Earths. Boron, Aluminum, Indium, Gallium, and Thallium. Elements of Periodic Group

IV. Chromium, Molybdenum, Vanadium, and Manganese. Iron, Cobalt, Nickel, and the Platinum Metals. The Nonmetals. APPLICATIONS. Clinical Applications. Soils, Plant Materials, and Plant Nutrients. Cement and Glass. APPENDIX. BIBLIOGRAPHY. SUBJECT INDEX.

HAMILTON AND SIMPSON—Calculations of Analytical Chemistry

By LEICESTER F. HAMILTON and STEPHEN G. SIMPSON, Massachusetts Institute of Technology. Sixth Edition.

334 *pp.*, 6 *x* 9, 17 *illus.* (1960).....$6.50*c*

One of the most successful texts ever published in the field of chemistry, this fine work is concerned with the required calculations and provides an ample supply of practical problems to cover the various branches of analysis for courses in both qualitative and quantitative analysis at the undergraduate level. The book has also proved to be a valuable supplementary text for the introductory course in general chemistry.

CONTENTS—GENERAL ANALYSIS. Mathematical Operations. Chemical Equations. Calculations Based on Formulas and Equations. Concentration of Solutions. Reactions and Equilibrium Constants. Redox Potentials. GRAVIMETRIC ANALYSIS. The Chemical Balance. Calculations of Gravimetric Analysis. Calculations from Reported Percentages. VOLUMETRIC ANALYSIS. Calibration of Measuring Instruments. Neutralization Methods (Acidimetry and Alkalimetry). Redox Methods (Oxidimetry and Reductimetry). Precipitation Methods (Preciptimetry). Complex-ion-formation (Compleximetry). SPECIAL METHODS. Electrolytic Methods. Potentiometric Titrations. Conductometric Titrations. Amperometric Titrations. Coulometric Titrations. Optical (Colorimetric) Methods. Gas-volumetric Analysis. COMMON ANALYTICAL DETERMINATIONS. (Methods Used in Gravimetric, Volumetric, and Colorimetric Determinations). PROBLEMS ON SPECIFIC GROUPS AND DETERMINATIONS. A. Qualitative Analysis. B. Quantitative Analysis. ANSWERS TO PROBLEMS. APPENDIX. INDEX.

EWING—Instrumental Methods of Chemical Analysis

By GALEN W. EWING, New Mexico Highlands University. Second Edition.

454 *pp.*, 6 *x* 9 (1960).....$9.50*c*

As before, this fine work covers in considerable detail all those analytical methods utilizing instruments in common laboratory use, as well as many less familiar methods gleaned from the recent technical journal literature. Emphasis is on the scope and potential utility of a method, its advantages and limitations, with a discussion of its theoretical background. The aim is to give students a rather detailed survey of the whole field, so that they can choose intelligently a route of approach to the solution of a wide variety of problems which may arise in chemical research or industrial control laboratories.

CONTENTS—PRINCIPLES. Introduction. Introduction to Optical Methods. The Absorption of Radiation (Ultraviolet and Visible). The Absorption of Infrared Radiation. Emission Spectroscopy. Analytical Aspects of X-rays and Electron Beams. Polarimetry. Refractivity and Dispersion. Introduction to Electrochemical Methods. Potentiometry. Voltammetry and Polarography. Electrodeposition and Coulometry. Conductimetry. Radioactivity as an Analytical Tool. Mass Spectrometry. Magnetic Resonance Spectroscopy. Extraction Analysis. Chromatography. Ion Exchange. Thermometric Methods. General Considerations in Analysis. Electronic Circuitry for Analytical Instruments. LABORATORY EXPERIMENTS. Introduction. Absorptimetry: Comparison of Methods. Absorptimetry: Nickel by Dimethylglyoxime. Absorptimetry: Chromium and Manganese in Steel. Absorptimetry: Identification of a Complex. Absorptimetry: Ultraviolet Spectrum of an Organic Compound. Absorptimetry: Analysis of APC Tablets. Absorptimetry: Study of an Indicator. Absorptimetry: Infrared Analysis of Xylene. Turbidimetry: Sulfate by Barium Chloride. Fluorimetry: Aluminum in a Zinc Alloy; Electrolysis at Mercury Cathode. Emission Spectrography: Qualitative Analysis. Emission Spectrography:. Quantitative Analysis. Flame Photometry: Water Analysis. Polarimetry and Refractometry: Determination of Sucrose. Potentiometric Titration: Neutralization. Potentiometric Titration. Iodometric Redox Reaction. Potentiometric Titration: Determination of Iron by Cerate. Polarography: Study of Apparatus and Methods of Plotting. Polarography: Analysis of Cadmium-Zinc Solutions. Amperometric Titration: Lead by Dichromate. Conductometric Titration: Solubility of Silver Sulfate. Controlled Potential Electrodeposition. Coulometric Titration: Arsenite by Bromine. Gas Chromatography. Thermometric Titrations. Photoelectric Photometers.

HELFFERICH—Ion Exchange

By FRIEDRICH G. HELFFERICH, Shell Development Company, Emeryville, Calif. *Series in Adv. Chem.*

640 *pp.*, 6 *x* 9, 166 *illus.* (1962)....$16.00*c*

A comprehensive, unified treatment of ion exchange, covering fundamental principles, structure, preparation, and theory. It seeks to give the reader a sound understanding of the phenomena and their physical causes, a "feel" for the behavior of ion exchangers, and the physico-chemical tools which will help him in solving his particular problems and in applying ion exchangers in practice. To this end, the theoretical treatment proceeds along two parallel lines of approach: qualitative reasoning not requiring mathematics, and quantitative mathematical treatment for which theories have been selected (and in part developed for this book) giving maximum insight into the physical causes of the phenomena.

CONTENTS—ELEMENTARY PRINCIPLES. STRUCTURE AND PROPERTIES OF ION EXCHANGERS. Mineral Ion Exchangers. Synthetic Inorganic Ion Exchangers. Ion Exchange Resins. Ion Exchange Coals. Other Materials with Ion Exchange Properties. Liquid Ion Exchangers. Survey and Comparison. PREPARATION. Principles. Cation Exchangers. Amphoteric Ion Exchangers. Particle Size and Shape; Supported Ion Exchangers. Ion Exchanger Membranes. CAPACITY. Definitions and Units. Apparent Capacity and Its Dependence on Experimental Conditions. pH Titration. Determination of pK Values. Experimental Methods. EQUILIBRIA. Theoretical Approaches and Models. Swelling. Sorption of Solutes. Ion Exchange Equilibria. Systems with More Than Two Counter Ion Species. Equilibria in the Presence of Complexing Agents. "Ligand Exchange." Reactions with Materials of Low Solubility. Experimental Methods. KINETICS. Mechanism of Ion Exchange. The Rate-determining Step. Rate Laws of Ion Exchange. Empirical and Simplified Rate Laws. Systems with More Than Two Counter Ion Species. Kinetics of Sorption and Swelling. Reactions with Materials of Low Solubility. Diffusion Coefficients in Ion Exchangers. Experimental Methods. ELECTROCHEMICAL PROPERTIES. Electric Conductivity. Transference Numbers and Transport Numbers. Transference of Solvent; Convection Conductivity. Quantitative Relations. Experimental Methods. ION EXCHANGER MEMBRANES. Characteristic Properties. Models and Theoretical Approaches. Diffusion Across Membranes. Membrane Potentials. General Integration of the Nernst-Planck Flux Equations. Anomalous Osmosis. Streaming Potential, Streaming Current, and Electrolyte Filtration. "Sorting" Effects. Experimental Methods. ION EXCHANGE COLUMNS. Ion Exchange in Columns. Conventional Column Operation. Multi-stage and Mixed-bed Deionization. Ion Exclusion. Ion Retardation. Separation by Selective Displacement. Principles of Ion Exchange Chromatography. "Ligand Exchange." Quantitative Treatment. Electrochemical Properties. Experimental Methods. BEHAVIOR IN NONAQUEOUS AND MIXED SOLVENTS. Ion Exchange in Nonaqueous Systems. Swelling. Capacity. Ion Exchange and Sorption Equilibria. Kinetics. Electrochemical Properties. CATALYSIS BY ION EXCHANGERS. Reactions of Gases and Vapors. Reactions of Liquids and Solutes. Kinetics. Experimental Methods. ELECTRON EXCHANGERS AND REDOX ION EXCHANGERS. Preparation. Reactions and Applications. Physico-chemical Properties. Experimental Methods. APPENDIX. Symbols, Abbreviations, and Units. Commercial Ion Exchangers. Mathematical Functions. AUTHOR INDEX. SUBJECT INDEX.

LAITINEN—Chemical Analysis

An Advanced Text and Reference

By HERBERT A. LAITINEN, University of Illinois. *Series in Adv. Chem.*

611 *pp.*, 6 *x* 9, *illus.* (1960).....$12.50*c*

Covers, at an advanced undergraduate-graduate level, the fundamental principles underlying chemical (as contrasted to instrumental) methods of analysis. Many of the preliminary operations involved in instrumental methods are also covered. Special emphasis is placed on equilibria, kinetics, and mechanisms of the important types of chemical reactions—acid-base, precipitation, complex formation, and redox—involved in chemical analysis; on methods of separation—precipitation, electro-deposition, distillation, extraction, chromatographic column techniques; and on the application of statistical methods to sampling experiment design, and interpretation of results.

CONTENTS—Introduction. Equilibrium and Activity. Acid-base Equilibria in Water. Acid-base Equilibria in Nonaqueous Solvents. Applications of Acid-base Titrations. Solubility of Precipitates. The Formation of Precipitates. Colloidal Properties of Precipitates. Aging of Precipitates. Contamination of Precipitates. Thermal Decomposition and Volatilization. Precipitation Titrations. Complex Formation Titrations. Organic Reagents for Precipitation and Extraction of Metals. Electrode Potentials. Electrolytic Separations and Electroanalysis. Oxidation-Reduction Titration Curves and Redox. Indicators. Prior Oxidation and Reduction. Permanganate as an Oxidant. Cerium(IV) as an Oxidant. Methods Involving Iodine. Oxyhalogen Compounds as Oxidants. Other Oxidants and Reductants. Reaction Rates in Chemical Analysis. Multistage Separation Methods. Statistics in Quantitative Analysis. Sampling. INDEX.

McDOWELL—Mass Spectrometry

By C. A. McDOWELL, University of British Columbia. *Series in Adv. Chem.*

624 *pp.*, 6 *x* 9, 221 *illus.* (1963) $20.00*r*

Presents a series of authoritative articles contributed by specialists in the more fundamental areas of mass spectrometry, along with the more important types of applications. All articles are extremely complete and competent. The aim is not to give an encyclopedia coverage of the entire subject, but rather to provide a definitive and detailed account of the more significant aspects of mass spectrometry.

CONTENTS—Introduction, by C. A. McDowell. Types of Mass Spectrometers, by J. B. Farmer. Mass Spectrometers in Research, by W. A. Bryce. Ion Sources, by R. M. Elliott. Ion Optics, by I. Kerwin. Electronic Techniques, by D. C. Frost. High-resolution Mass Spectrometers, by H. E. Duckworth and S. N. Ghoshal. Vacuum Techniques, by H. A. Tasman, A. J. H. Boerboom and J. A. Kistemaker. Chemical Analysis, by V. H. Dibeler. Isotope Abundance Measurements and Their Application to Chemistry, by C. C. McMullen and H. G. Thode. Mass Spectrometry of Free Radicals, by F. P. Lossing. The Ionization and Dissociation of Molecules, by C. A. McDowell. Ion-molecule Reactions, by D. P. Stevenson.

MEITES AND THOMAS—Advanced Analytical Chemistry

By LOUIS MEITES, Polytechnic Institute of Brooklyn, and HENRY C. THOMAS, University of North Carolina. With a Chapter on The Absorption of Infrared Radiation by Robert P. Bauman, Polytechnic Institute of Brooklyn.

530 *pp.*, 6 *x* 9, 99 *illus.* (1958) $9.95*c*

Offers an exposition of the theory and practice of a number of modern techniques of chemical analysis and research. These techniques include potentiometry, conductometry, polarography, electrolytic procedures, absorptimetry, radiochemistry, and chromatography. The instruments themselves are subordinated to the theory which underlies their use. Discussion is limited to a relatively small number of instrumental methods—those which are most widely useful throughout all the branches of chemistry.

CONTENTS—Preface. The Nature of Analytical Chemistry. Ionic Equilibria in Solutions. Potentiometric Measurements. The Measurement of pH. Conductometric Measurements. Polarography and Amperometric Titrations. Electrolytic Methods. The Absorption of Visible and Ultraviolet Light. The Absorption of Infrared Radiation. Radiochemical Methods. Ion-exchange and Chromatographic Methods. The Development of an Analytical Method. Answers to Problems. Suggestions for Further Study. Appendix. Practical Applications of Instrumental Techniques. Index.

NACHTRIEB—Principles and Practice of Spectrochemical Analysis

By NORMAN H. NACHTRIEB, University of Chicago.

324 *pp.*, 6 *x* 9, 174 *illus.* (1950) $8.95*c*

A reference on chemical spectroscopy, metallurgical spectroscopy, and spectroscopy in physics. Presents theory which underlies chemical emission spectroscopy and illustrates principles by descriptions of practical applications of spectroscopy to various problems of chemical analysis. Concerns itself entirely with emission spectroscopy in ultraviolet and visual regions of the spectrum.

CONTENTS—The Principles of Spectrochemical Analysis; The Role of Spectroscopy in Analytical Chemistry; Prism Spectrographs and the Refraction of Light; The Diffraction of Light by Slits and Gratings; Accessory Optical Equipment; The Photographic Process; The Evaluation of Photometric Data; Direct-reading Spectrometers; The Origin of Spectra; The Excitation of Spectra; The Practice of Spectrochemical Analysis; The Quantitative Analysis of Metals; Qualitative Analysis; The Analysis of Refractory Materials; The Analysis of Solutions and Soluble Salts; Chemical Separations in Spectrochemical Analysis. Index.

BIFFEN AND SEAMAN—Modern Instruments in Chemical Analysis

By FRANK M. BIFFEN, formerly Johns-Manville Research Center, and WILLIAM SEAMAN, American Cyanamid Company, Bound Brook, New Jersey.

333 *pp.*, 6 *x* 9, 188 *illus.* (1956) $8.75*r*

This book is aimed at helping analytical and other chemists understand the reason for, the working of, and the results that can be obtained with modern instrumentation. Without entering into highly technical discussions, the basic principles of the different methods are presented, the advantages pointed out, and the method of procedure given.

CONTENTS—Introduction. Emission Spectroscopy. Flame Photometry. Visual and Ultraviolet Spectrophotometry. Infrared Spectrophotometry. Raman Spectrophotometry. Mass Spectrometry. X-ray Diffraction. Survey of Electroanalysis. Polarography and Amperometric Analysis. Potentiometric Analysis. Conductometric Analysis. Coulometric Analysis. Radioactivity.

GRIFFIN—Technical Methods of Analysis

As employed in the Laboratories of Arthur D. Little, Inc. Edited by ROGER CASTLE GRIFFIN, Arthur D. Little, Inc. Second Edition.

936 *pp.*, 5½ *x* 8, 44 *illus.* (1927) $14.50*c*

A representative selection of analytical methods which have been adopted as standard procedures in the laboratories of Arthur D. Little, Inc. The methods given have been used many times and have been proved to give satisfactory results in the hands of different analysts.

CONTENTS—Reagents. General Inorganic Analyses. General Organic Analyses. Analysis of Metals. Analysis of Fuels. Analysis of Paints and Paint Materials. Analysis of Oils, Fats, Waxes, and Soaps. Analysis of Wood, Paper, and Paper-making Chemicals. Analysis of Textiles and Textile Fibers. Analysis of Foodstuffs. Analysis of Water, Sewage, and Soils. Miscellaneous Analyses.

REILLEY AND SAWYER—Experiments for Instrumental Methods

By CHARLES N. REILLEY, University of North Carolina, and DONALD T. SAWYER, University of California, Riverside.

412 *pp.*, 8½ *x* 11, 100 *illus.* (1961)..$6.50*c*
This book is designed to serve as a laboratory manual for instrumental analysis courses in chemistry. Each experiment is introduced with a brief review of the fundamentals of the method and includes suggested preliminary reports and detailed questions to insure the student's understanding and appreciation of the specific instrumental methods involved. Emphasis is placed on the usefulness of instrumental methods for all phases of chemistry, rather than just for analysis. The manual covers most of the major instrumental methods commonly used by chemists, and because of their major importance, electrochemical and optical methods are given especial emphasis.
CONTENTS—ELECTROMETRIC METHODS. Potentiometric Methods. Conductometric Methods. Voltammetric Methods. Electrolytic Methods. OPTICAL METHODS. Absorption Spectrometric Methods. Emission Spectrometric Methods. SEPARATION METHODS. Chromatographic, Ion Exchange and Other Separation Methods. RADIOCHEMICAL METHODS. INSTRUMENTATION. Vacuum Electron Tubes and Circuit Components.

Nuclear Chemistry

OVERMAN AND CLARK—Radioisotope Techniques

By RALPH T. OVERMAN, Oak Ridge Institute of Nuclear Studies, and HERBERT H. CLARK, Rensselaer Polytechnic Institute.

476 *pp.*, 6 *x* 9, *illus.* (1960).....$10.50*c*
This unique laboratory textbook deals with the principles and practice of handling and measuring techniques that will enable the scientific investigator to use radioactive materials in his research program. It provides a compilation of material on preparation of radioactive sources laboratory characterization, standardization, and separation methods; as well as a compilation of the practical aspects of radioisotope applications. A main purpose is to present the theory and principles underlying the techniques, along with the discussion of laboratory procedures.
CONTENTS—NUCLEAR RADIATIONS AND THEIR INTERACTIONS WITH MATTER. The Production of Radiation. The Spectra of Nuclear Radiations. Decay Schemes. Interactions of Alpha and Beta Radiations with Matter. Interactions of Electromagnetic Radiation with Matter. Radiation Units. THE DETECTION OF RADIATION. Radiation detectors. Associated Electronic Equipment. Standard Laboratory Instrumentation Systems. Photographic Emulsions and Autoradiography. ERRORS IN RADIOACTIVITY MEASUREMENTS. Sources of Error. General Treatment of Errors. Errors Resulting from Fluctuations in the Rate of Radioactive Disintegration—Application of the Poisson Distribution Law. THE PRACTICE OF RADIOLOGICAL SAFETY. The Maximum Permissible Exposure to Radiation. Levels of Radioisotope Operations. Radiation Protection Instrumentation. Problems of Decontamination and Waste Disposal. Typical Rules for the Operation of an Intermediate Level University Type Radioisotope Laboratory. Emergency Precautions. THE PREPARATION OF RADIOACTIVE SOURCES AND CALIBRATION OF RADIATION Sources. Gaseous Sources. Liquid Sources. THE LABORATORY CHARACTERIZATION OF RADIATION. Absorption Curves. Scattering of Beta Radiation. Self-absorption of Beta Radiation. Determination of Gamma Ray Energy by Absorption Measurements. STANDARDIZATION OF RADIOACTIVE SOURCES. Choice of Source. Solid DETECTORS. Standardization of Radioactive Sources. Calibration of Detectors. Calibration of Radiation Protection Equipment. THE RATES OF RADIOACTIVE PROCESSES. Single Radionuclide. Mixture of Independent Radionuclides. Formation of a Stable Daughter Nuclide. Mixture of Genetically Related Radionuclides. Synthesis of Radionuclides. RADIOCHEMICAL SEPARATION METHODS. Introduction. Precipitation Methods. Solvent Extraction Methods. Chromatographic Methods. Other Methods. THE UTILIZATION OF RADIOISOTOPES. Special Applications of Radioisotope Techniques. Problems of Experiment Design. Applications of Radioisotopes.

Qualitative Analysis

ARTHUR AND SMITH—Semimicro Qualitative Analysis

By PAUL ARTHUR and OTTO M. SMITH, Oklahoma A. and M. College. Third Edition.

285 *pp.*, 6 *x* 9, 27 *illus.* (1952).....$5.50*c*
A college text-manual intended for a one-semester course in qualitative analysis. The book is designed to teach the fundamentals of elementary qualitative analysis; to familiarize the student with theories of solutions and their applications in solving problems of preparation, purification, and quantitative analysis; and to provide a systematic study of the descriptive chemistry of metals and nonmetals and their ions in solution. The semimicro technique is used exclusively in the laboratory portion.
CONTENTS—Preface. Part I. THEORY. Introduction; Review of Elementary Principles. Solutions. Theories of Ionization of Water; pH; Hydrolysis. Complex Ions; geneous Equilibriums; Solubility Product. Colloids; Coprecipitation. Hydrogen Sulfide and Metal Sulfides. Ionization. Homogeneous Ionic Equilibriums. Hetero- Amphoteric Substances. Oxidation-Reduction Reactions. Part II. ANALYTICAL PROCEDURE. Semimicro Technique. Cation Analysis. Anion Analysis. Appendix. Index. Periodic Table.

GILREATH—Qualitative Analysis

Using Semimicro Methods

By ESMARCH S. GILREATH, Washington and Lee University.

285 *pp.*, 6 *x* 9 (1954).....$5.50*c*
Designed as the basis for a one-semester course to follow general chemistry, and presents an integrated discussion of the concepts, theories, and laws relating to solutions. The experimental section offers systematic schemes of analysis for the cations and anions.
CONTENTS—PART I. THEORETICAL ASPECTS. Introduction. Forces between Atoms. Solutions. Chemical Equilibrium. Ionization of Weak Electrolytes. The Solubility Product Principle. Hydrolysis. Complex Ions. Colloids. Oxidation and Reduction Theory. Balancing of Oxidation-Reduction Equations (a Review from General Chemistry). PART II. EXPERIMENTAL PROCEDURES. General Laboratory Directions—Introduction to Cation Analysis. Cations: Group I. Group II. Group III. Group IV. Group V. Introduction to Anion Analysis. Anions: Group I. Group II. Group III. Group IV. Group V. Complete Analysis. Appendix. Special Laboratory Directions. Notebook Record of Analytical Results. Assignment Schedule. List of Desk Apparatus. Reagents. Test Solutions. Distribution of Electrons in the Atoms of the Elements. Ionization Constants of Weak Bases. Ionization Constants of Weak Acids. Acid Constants of Hydrated Ions and Hydroxides. Dissociation Constants of Complex Ions. Table of Solubility Product Constants.

MOELLER—Qualitative Analysis

An Introduction to Equilibrium and Solution Chemistry

By THERALD MOELLER, University of Illinois.

535 *pp.*, 6 *x* 9, 38 *illus.* (1958)....$6.95*rL*
Designed to present the principles of chemical equilibrium as applied to solution chemistry, and to implement this presentation by means of laboratory training in qualitative analysis. The book is divided into theoretical and practical sections: it is intended that principles and practice be taken up simultaneously, so that one supplements the other. The book covers the majority of the common anions and cations in detail, and lays a foundation of fact and theory for a subsequent course in quantitative analysis. Separate schemes for semimicro analysis of the cations and anions are introduced, including the use of H_2S and thioacetamide.
CONTENTS—PART I. PRINCIPLES OF SOLUTION CHEMISTRY. Introduction. Some Characteristics of Aqueous Solutions. Ionic Reactions in Aqueous Solution. Reaction

Rates and Chemical Equilibria. Ionic Equilibria Involving Weak Acids and Bases. Equilibria Involving Water and Its Ions. Hydrolysis. Equilibria Involving Precipitates. Colloid Chemistry. Complex Ions and Coordination Compounds. Amphoterism and Amphoteric Substances. PART II. CHEMICAL CHARACTERISTICS OF THE MORE COMMON IONIC SPECIES. Classification of Ionic Species. Chemical Characteristics of the Anions. Chemical Characteristics of the Cations. PART III. LABORATORY INVESTIGATION OF THE CHARACTERISTICS OF MORE COMMON IONIC SPECIES. Laboratory Operations and Techniques. Preliminary Experiments Involving Anions. Identification of Anions. Preliminary Experiments Involving Cations. Identification of Cations. Alloys. Analyses for Both Anions and Cations. Special Techniques in Laboratory Operations. Appendixes.

Quantitative Analysis

FOULK, MOYER, AND MacNEVIN—Quantitative Chemical Analysis

An Introduction to the Science and Practice of Chemical Measurement

By CHARLES W. FOULK, formerly the Ohio State University, HARVEY V. MOYER, deceased; and WILLIAM M. MACNEVIN, the Ohio State University.

465 *pp.*, 6 *x* 9, 105 *illus.* (1952) $6.50*c*

A standard, modern text for the intensive or full-year course taken by chemistry majors. Practice and theory balanced almost equally, but the general theory is separated from the analytical procedures in order to present fundamental principles without confusing them with the details of specific determinations.

CONTENTS—Introduction. The Chemical Balance and Its Use. Operations of Quantitative Analysis. Apparatus for Gravimetric Analysis. The Operations of Gravimetric Analysis. Calculations in Gravimetric Analysis. The Solubility of Analytical Precipitates. Analytical Precipitates. Volumetric Apparatus and Its Calibration. Volumetric Solutions and Their Standardization. Calculations in Volumetric Analysis. Hydrogen-ion Concentration of Aqueous Solutions of Acids, Bases, and Salts. Oxidation-reduction Reactions and Complex Formation in Volumetric Analysis. Errors and Statistical Methods in Chemical Analysis. Oxidation-reduction Potentials. The Potentiometric Measurement of pH Values. Electrometric Titrations. Electrolytic Analysis. Colorimetric Analysis. Exercises. Appendixes. Index.

GRIFFIN—Inorganic Quantitative Analysis

By CARROLL WARDLAW GRIFFIN, Vassar College. Second Edition.

417 *pp.*, 48 *illus.*, 72 *experiments* (1954) $5.95*c*

Intended for the one-semester or one-year course in elementary quantitative analysis, based on previous knowledge of one course in general chemistry and qualitative analysis. Included in the text are 72 laboratory experiments providing the student with examples of application of principles under discussion and enabling him to develop skill in operations.

CONTENTS—Introduction. General Operations and Equipment. Accuracy, Precision, Errors and Significant Figures. The Analytical Balance: Weighing. Calibration of Volumetric Apparatus. Quantitative Separations. Volumetric Analysis: Fundamental Principles. Neutralization. Acidimetry and Alkalimetry. Oxidation and Reduction I: Stoichiometric Relations and Calculations. Oxidation and Reduction II: Theory. Oxidation and Reduction III: Experimental. Oxidation and Reduction IV: Iodine Processes. Gravimetric Analysis: Fundamental Principles. Coprecipitation. Gravimetric Analysis: Experimental. Volumetric Analysis by Precipitation Methods. Potentiometric Titrations, Electroanalysis. Colorimetry. Appendix. Index.

RIEMAN, NEUSS, AND NAIMAN—Quantitative Analysis

A Theoretical Approach

By WILLIAM RIEMAN, Rutgers University, JACOB D. NEUSS, Merck & Co., Inc., and BARNET NAIMAN, City College of New York. Third Edition.

523 *pp.*, 6 *x* 9, 77 *illus.* (1951) $6.95*c*

This college text for students of chemistry emphasizes theoretical aspects and close relationships between theory and laboratory practice, and approaches the subject from the point of view of physical chemistry. An outstanding feature of the book is its treatment of the application of the modern theory of electrolytic solutions to quantitative analysis.

CONTENTS—Introduction. Common Apparatus and Operations. The Balance. Volumetric Apparatus. Fundamentals of Volumetric Analysis. Volumetric Determination of Chloride Ion by Mohr's Method. Potentiometric Measurements. Ionization of Salts, Acids and Bases. Acidimetry and Alkalimetry. PART I. Standardization of Solutions. Acidimetry and Alkalimetry. PART II. Analysis of Unknowns. Theory of Oxidation. PART I. Determination of Iron in an Ore. Theory of Oxidation. PART II. Redox Potential. Iodimetry. PART I. The Determination of Antimony. Iodimetry. PART II. The Determination of Copper. Gravimetric Determination of Aluminum. Coprecipitation. Determination of Chlorine. Determination of Sulfur. Determination of Manganese. Photometric Methods. Manganese in Steel. Redox Indicators. Chromium and Vanadium. Determination of Phosphorus. Determination of Zinc. Organic Reagents. Determination of Nickel and Aluminum. Analysis of Brass or Bronze. Electroanalysis. Analysis of Limestone.

Inorganic Chemistry

BALLHAUSEN—Introduction to Ligand Field Theory

By C. J. BALLHAUSEN, University of Copenhagen, Denmark. *Series in Adv. Chem.*

320 *pp.*, 6 *x* 9, 60 *illus.* (1962) $11.75*c*

This monograph deals with the theory of the electronic structures of complex ions, laying special emphasis on the spectral and magnetic features of these compounds. Theory and experiment are adroitly integrated, with numerous examples, unifying for the first time all the knowledge required to understand the theory of ligand fields: theories of atomic spectra, group theory, crystal field theory, and the theory of molecular orbitals.

CONTENTS—INTRODUCTION. History of Complexes. Theories of Bonding. History of the Crystal Field Approach. THEORY OF ATOMIC SPECTRA. Orbitals and States. Atomic Wavefunctions. The Raising and Lowering Operators. Matrix Elements. Two Electronic Operators. Evaluation of the Matrix Elements. Term Energies. General Remarks on the Method. Spin-orbit Coupling in a Hydrogenic-like System. Spin-orbit Coupling in a Many-electron Case. Absolute Term Intervals. Zeeman Splitting. Selection Rules. SYMMETRY. Concept of Symmetry. Nomenclature of Symmetry Operators. Representations. Important Point Groups Occurring in Inorganic Chemistry. Representations and Wavefunctions. The Direct Product. Double Groups. The Eulerian Angles. THE CRYSTAL FIELD THEORY I. FIELDS OF OCTAHEDRAL SYMMETRY. Formalism. Octahedral Fields. Single d-electron in a Cubic Field. Weak Fields. Strong Fields. Fields of Intermediate Strength. Computation Aids. Descent in Symmetry. Equivalence of t_{2g} electrons and p-electrons. The Spectrochemical Series. THE CRYSTAL FIELD THEORY II. FIELDS OF TETRAHEDRAL AND OF LOWER SYMMETRY. Tetragonal Fields. Trigonal Fields. cis- and trans- and Rhombic Fields. Tetrahedral Fields. SPIN-ORBIT COUPLING. Importance of Spin-orbit Coupling. Spin-orbit Coupling for One d-electron in Octahedral Fields. Spin-orbit Coupling for d^n Configurations in Octahedral Fields. Spin-orbit Splittings Calculated by the Method or Arbragam and Pryce. g-factors in an Octahedral Field g-factors in a Tetragonal or Trigonal Field. The Spin Hamiltonian. Magnetic Susceptibilities. MOLECULAR ORBITALS. General Discussion. Binding Scheme for an Octahedral Complex. Estimations of Wavefunctions in a M. O. Scheme. Band Intensities in Parity Allowed Transitions. VIBRONIC INTERACTIONS. Vibrational Spectra. Absorption Band Intensities for Centro-symmetric Complexes. Dichroism. Jahn-Teller Configurational Instability. SOME FURTHER ASPECTS. The Faraday Effect. Optical Rotatory Dispersion. "Sandwich" Compounds. Stability of Complex Ions. ELECTRONIC STRUCTURES OF SELECTED INORGANIC COMPLEXES. Introduction. Complexes of the First, Second, and Third Transition Series. APPENDIX. INDEX.

GILREATH—Fundamental Concepts of Inorganic Chemistry

By ESMARCH S. GILREATH, Washington and Lee University.

445 *pp.*, 6 *x* 9, 81 *illus.* (1958).....$8.50*c*

Designed as a textbook for the use of students at an advanced undergraduate level, this volume provides materials for a one-semester course in the study of the fundamental concepts of inorganic chemistry. As such, it is intended to supply certain essential scientific knowledge that is not transmitted in the first two years of chemistry and physics. This text offers only an *elementary approach* to certain *theoretical concepts*. Pertinent, thought-provoking questions are supplied at the end of each chapter, along with a bibliography of selected recommendations for further reading.

CONTENTS—Preface. Atomic Nuclei. Atomic Structure. Classification of the Elements. Forces between Atoms. Complex Ions and Coordination Compounds. Inorganic Reactions in Aqueous Solutions. Inorganic Substances in Nonaqueous Media. Radioactivity and Nuclear Transformation. Index.

MARTIN AND MARTIN—Coordination Compounds

By DEAN F. MARTIN, Univ. of Illinois; and BARBARA B. MARTIN.

In Press

Provides an introduction to the chemistry of the coordination compounds at the beginning undergraduate level, emphasizing the practical, everyday uses to which these compounds are put. Historical aspects are used to show development of knowledge and understanding of the compounds. The book is organized logically; the chapters progress in order of complexity; explanations are clear, the writing vivid.

CONTENTS—THE WORLD OF COORDINATION COMPOUNDS. An Introduction to a New and an Old World. Factors that Influence the Formation of Coordination Compounds. The Nomenclature of Coordination Compounds. THE YEARS OF DISCOVERY. A Colorful Beginning. The Years of Discovery. Werner, the Man and the Theory. THE ARCHITECTURE OF COORDINATION COMPOUNDS. Isomerism: A Blueprint for Chemical Architects. Structural Isomerism: A Study in Permutations and Combinations. Stereoisomerism: A Study of Atoms in Space. Stereochemistry, Function and Design. THE YEARS OF UNDERSTANDING. Chemical Approaches. Physical Methods. Theoretical Approaches. COORDINATION COMPOUNDS IN SOLUTION. Introduction. Coordination Compound Equilibria. Mechanisms of Reactions in Solution. A Future World of Coordination Compounds.

SUNDHEIM—Fused Salts

By BENSON R. SUNDHEIM, New York Univ. *Series in Adv. Chem.*

In Press

A monograph containing seven essays written by eminent scientists who have made original contributions to the subject. Each chapter contains a critical review of pertinent literature, an evaluation of present research, and frequently, important new research contributions. The topic has assumed great importance in high temperature technology, space research, and energy conversion.

Inorganic Syntheses

(Inorg. Syn)

A series of volumes which represents an effort on the part of an outstanding group of inorganic chemists to make available detailed and tested methods for the synthesis of inorganic compounds. This series includes the critical details essential to the success of a synthesis that are frequently omitted. Some of the methods are new, but many are improvements on older procedures. Where it was thought helpful, a critical survey of known methods introduces the synthesis to guide the user of the method. Each book is arranged on the bases of the Mendeleev periodic classification, with subdivisions into A and B groups.

BOOTH—Inorganic Syntheses—Volume I

Edited by HAROLD SIMMONS BOOTH. *Inorg. Syn. Series.*

197 *pp.*, 6 *x* 9, 31 *illus.* (1939).....$7.95*r*

CONTENTS—Preface. I. Purification of Lithium Carbonate. Purification of Silver Residues. II. Preparation of Amalgams. Sodium Amalgam. Barium Amalgam. Amalgams of Lanthanum, Neodymium, and Cerium. Red Mercuric Sulfide. Boron Trifluoride. Potassium Fluoborate. Gallium Trichloride. Anhydrous Rare-Earth Chlorides. IV. Carbon Tetrafluoride. Trioxalato Salts. Silicobromoform. The Higher Chlorides of Silicon. Lead Dioxide. Lead Tetracetate. Anhydrous Zirconium Bromide. Anhydrous Thorium Bromide. V. Nitrosyl Chloride. Monochloramine. Dibromoamine. Nitrogen Trichloride. Nitramide. Sodium Amide. Hydrogen Azide. Potassium Azide. Thiocyanogen Solution. Hydroxylamine. Hydrazine Sulfate. Recovery of Hydrazine Residues as Dihydrochloride or Sulfate. Guanidine Nitrate. Phosphorus Pentachloride. Crystalline Orthophosphoric Acid. Arsenic Triiodide. Antimony Triiodide. VI. Oxygen Fluoride. Hydrogen Sulfide. Thionyl Bromide. Sulfuryl Chloride. Selenium Dioxide. Sulfur, Selenium, and Tellurium Hexafluorides. Chromous Acetate. Chromous Chloride. Silicomolybdic Acid. Silicotungstic Acid. Phosphotungstic Acid. VII. Anhydrous Hydrogen Fluoride. Fluorine. Hydrogen Chloride. Hydrogen Bromide. Hydriodic Acid. Potassium Iodide for Use as a Primary Standard. Iodine Monochloride. Iodine Trichloride. Periodates of Sodium, Potassium, and Barium. Periodic Acid. Metallic Rhenium. Potassium Chlororhenite. Rhenium Pentachloride. Rhenium Trichloride. VIII. Tetrapyridino-Ferrous Chloride (Yellow Salt). Gamma Ferric Oxide Monohydrate and Gamma Ferric Oxide. Bromopentamminocobalti Bromide.

FERNELIUS—Inorganic Syntheses—Volume II

Edited by W. C. FERNELIUS, Koppers Corporation. *Inorg. Syn. Series.*

293 *pp.*, 6 *x* 9, *illus.* (1946).....$7.50*r*

CONTENTS—Preface; Lithium Nitride; Extraction of Cesium from Pollucite; Silver(II) Oxide; Gold Powder and Potassium Tetrabromoaurate(III); Calcium Dihydrogen Orthophosphate 1-Hydrate; Calcium Hydrogen Orthophosphate 2-Hydrate and Calcium Hydrogen Orthophosphate; Aluminum Phosphide Biurea; Urazine; Carbohydrazide; Cyanate Condensation Products of Carbohydrazide; Thiosemicarbazide; Iodotrichlorosilane and Diiododichlorosilane; Cyclohexyltrichlorosilane; Silicon Tetraacetate; Nitrosyl Chloride; Nitryl Chloride; Phosphorous Acid; Diethyl Phosphite; Dioctyl Phosphite; Alkyl Dichlorophosphites; 2-Chloroethyl Dichlorophosphite; Disodium Dihydrogen Hypophosphate; Phosphorous(V) Sulfochloride; O-Ethyl Dichlorothiophosphate; Diethyl Monoamidophosphate; Diethyl Monochlorophosphate; Vanadium(III) Oxide and Vanadium(V) Oxytrichloride(Correction); Sodium Superoxide; 2-Chloroethyl Chlorosulfonate and (2-Chloroethoxy)-trichlorosilane; Sodium "Selenopentathionate" 3-Hydrate and Sodium "Telluropentathionate" 2-Hydrate; Xanthates and Dithiocarbamates of Selenium(II) and Tellurium(II); Addition Compounds of Chromium(VI) Oxide; Potassium Pentachloroaquomolybdate(III) and Potassium Hexachloromolybdate(III); Bis(8-quinolinolo)dioxouranium(VI) and Its Addition Compound with 8-Quinolinol; Anhydrous Metal Halides; Gallium(II) Chloride; Bismuth(III) Iodide; Aluminum Iodide; Tin(IV) Iodide; Zirconium and Hafnium Tetrachlorides; Vanadium(II) Chloride; Vanadium(III) Chloride; Tantalum(V) Bromide; Fluorination of Volatile Inorganic Compounds; Methyl Chlorofluorophosphite and Methyl Difluorophosite; Silicon Tetrafluoride; Germanium(IV) Fluoride; Phosphorus(III) Fluoride; Arsenic(III) Fluoride; Chlorine(IV) Oxide; Iron(II) Formate, Iron(II) Bromide 6-Ammoniate; Potassium Ferrate (VI); Nitrosylpentamminecobalt(II) Chloride, Black, and Nitrosylpentamminecobalt(III) Chloride, Pink; Acidopentamminecobalt(III) Salts; cis- and trans-Dinitrobis(ethylenediamine)cobalt(III) Nitrate; trans-Dinitrodiamminepalladium(II); Index of Contributors. Subject Index; Formula Index.

AUDRIETH—Inorganic Syntheses—Volume III
Edited by L. F. AUDRIETH, University of Illinois. *Inorg. Syn. Series.*
230 *pp.*, 6 *x* 9, 40 *illus.* (1950) $7.50*r*

CONTENTS—CHAPTER I: Sodium Peroxide 8-Hydrate. CHAPTER II: Basic Beryllium Derivatives—Organic Acids. Basic Beryllium Acetate and Propionate. Strontium Sulfide and Selenide Phosphors. Barium Thiocyanate. CHAPTER III: Boron Chloride and Bromide. Aluminum Bromide. CHAPTER IV: Carbon Tetraiodide. Cyanamide. Dicyanodiamide (Cyanoguanidine). Aminoguanidonium Hydrogen Carbonate (Aminoguanidine Bicarbonate). Ammonium Dithiocarbanate. Organosilicon Compounds. Dimethyldichlorosilane (Dimethylsilicon Dichloride). Vinylchlorosilanes. Diphenylsilanediol. Germanium(II) Iodide (Germanium Diiodide). Methylgermanium Triiodide (Methyltriiodogermane). The Extraction of Hafnium and Zirconium from Cyrtolite. CHAPTER V: Nitrogen(V) Oxide (Nitrogen Pentoxide, Dinitrogen Pentoxide, Nitric Anhydride). Hydroxylammonium Salts. The Poly- and Metaphosphates and the Strong Phosphoric Acids. Pyrophosphoric Acid. Sodium Pyrophosphates (Sodium Diphosphates). Sodium Triphosphate (Sodium Tripolyphosphate). Sodium Metaphosphates. Sodium Monofluophosphate. Silver Monofluophosphate. Hexanuophosphates of Sodium, Ammonium, and Potassium. Ammonium Metavanadate. CHAPTER VI: Sulfur(VI) Fluoride (Sulfur Hexafluoride). Disulfur Pentoxydichloride (Pyrosulfuryl Chloride). Selenium(IV) Oxide (Selenium Dioxide). Selenium(IV) Oxychloride. Crystalline Selenic Acid. Tellurium(IV) Chloride (Tellurium Tetrachloride). Tellurium(IV) Oxide (Tellurium Dioxide) Telluric Acid. Chromium(II) Acetate (Chromous Acetate). Anhydrous Chromium(II) Chloride (Chromous Chloride). Hexamminechromium(III) Nitrate. Chromium Hexacarbonyl. Potassium Octacyanomolybdate(IV) 2-Hydrate (Potassium Molybdocyanide Dihydrate) Tungsten(VI) Chloride (Tungsten Hexachloride). Uranium(IV) Oxalate. Potassium Tetraoxalatouranate(IV) Anhydrous Metal Fluorides. Bromine(III) Fluoride (Bromine Trifluoride). Rhenium(VI) Oxide (Rhenium Trioxide). Rhenium (VII) Oxide (Dirhenium Heptoxide). CHAPTER VII: Anhydrous Iron(III) Chloride (Ferric Chloride). Hexamminenickel(II) Bromide and Hexamminenickel (II) Iodide. *Bis* (N,N'—Disalicylalethylenediamine) ———Aquodicobalt(II) *Bis* N,N'-*bis* (*o*-hydroxybenzylidine) ethylenediamine— ——Aquodiacobalt(II), Appendix. Index of Contributors. Subject Index, Formula Index.

BAILAR—Inorganic Syntheses—Volume IV
Edited by JOHN C. BAILAR, JR., University of Illinois. *Inorg. Syn. Series.*
218 *pp.*, 6 *x* 9, *illus.* (1953) $7.50*r*

CONTENTS—Preface. Lithium Nitride. Extraction of Cesium from Pollucite. Silver(II) Oxide. Gold Powder and Potassium Tetrabromoaurate(III). Calcium Dihydrogen Orthophosphate 1-Hydrate. Calcium Hydrogen Orthophosphate 2-Hydrate and Calcium Hydrogen Orthophosphate. Aluminum Phosphide. Biurea. Urazine. Carbohydrazide. Cyanate Condensation Products of Carbohydrazide. Thiosemicarbazide. Iodotrichlorosilane and Diiododichlorosilane. Cyclohexyltrichlorosilane. Silicon Tetraacetate. CHAPTER V. Nitrosyl Chloride. Nitryl Chloride. Phosphorous Acid. Diethyl Phosphite. Dioctyl Phosphite. Alkyl Dichlorophosphites. 2-Chloroethyl Dichlorophosphite. Disodium Dihydrogen Hypophosphate. Phosphorus(V) Sulfochloride. O-Ethyl Dichlorothiophosphate. Diethyl Monoamidophosphate. Diethyl Monochlorophosphate. Vanadium(III) Oxide and Vanadium(V) Oxytrichloride (Correction). CHAPTER VIA. Sodium Superoxide. 2-Chloroethyl Chlorosulfonate and (2-Chloroethoxy)-trichlorosilane. Sodium "Selenopentathionate" 3-Hydrate and Sodium "Telluropentathionate" 2-Hydrate. Xanthates and Dithiocarbamates of Selenium (II) and Tellurium(II). CHAPTER VIB. Addition Compounds of Chromium(VI) Oxide. Potassium Pentachloroaquomolybdate(III) and Potassium Hexachloromolybdate(III). Bis(8-quinolinolo)dioxouranium (VI) and Its Addition Compound with 8-Quinolinol. CHAPTER VIIA. Anhydrous Metal Halides. Gallium (II) Chloride. Bismuth(III) Iodide. Aluminum Iodide. Tin(IV) Iodide. Zirconium and Hafnium Tetrachlorides. Vanadium(II) Chloride. Vanadium(III) Chloride. Tantalum(V) Bromide. Fluorination of Volatile Inorganic Compounds. Methyl Chlorofluorophosphite and Methyl Difluorophosphite. Silicon Tetrafluoride. Germanium(IV) Fluoride. Phosphorus(III) Fluoride. Arsenic(III) Fluoride. Chlorine(IV) Oxide. CHAPTER VIII. Iron(II) Formate. Iron(II) Bromide 6-Ammoniate. Potassium Ferrate(VI). Nitrosylpentamminecobalt(II) Chloride, Black, and Nitrosylpentamminecobalt(III) Chloride, Pink. Acidopentammine-cobalt(III) Salts. *cis*- and *trans*-Dinitrobis(ethylenediamine) cobalt(III) Nitrate. *trans*-Dinitrodiammine-palladium(II), Index of Contributors. Subject Index. Formula Index.

MOELLER—Inorganic Syntheses—Volume V
Edited by THERALD MOELLER, University of Illinois. *Inorg. Syn. Series.*
265 *pp.*, 6 *x* 9, 19 *illus.* (1957) $7.50*r*

CONTENTS—Preface. CHAPTER IA: Lithium Hydroperoxide 1-Hydrate, Lithium Peroxide, and Lithium Oxide. Sodium Dispersions. Sodium Hydride. CHAPTER IB: Dichloro(di-2-pyridylamine) copper(II) and Bis(di-2-pyridylamine)copper(II) Chloride. Bis(ethylenediamine)copper(II) Diiodocuprate(I). Disilver Fluoride. CHAPTER IIA: Beryllium Chloride. CHAPTER IIIA: Boron Halide Amine Coordination Compounds. Ethyl Orthoborate. CHAPTER IIIB: Isolation of Samarium, Europium, and Ytterbium Materials by Means of Sodium Amalgam. Anhydrous Lanthanon Nitrates. CHAPTER IVA: Cyanogen. Allophanyl Hydrazide. Urazole. Silica Gel (Correction). Organosilazane Compounds. Organogermanium Compounds. Tetraphenylgermane. Hexaphenyldigermane. Diphenylgermane. Triphenylbromogermane and Triphenylgermane. CHAPTER IVB: Extraction of Titanium(IV) Oxide from Ilmenite. Titanium(IV) Sulfide. CHAPTER VA: Nitrogen(IV) Oxide 1,1,1-Trisubstituted Hydrazonium Chlorides. Phosphorus(III) Fluoride. Hexaguanidonium Tetraphosphate 1-Hydrate. Sodium Monothiophosphate. CHAPTER VB: Preparation of Metal Derivatives of 1,3-Diketones. Vanadium(IV) Oxy(acetylacetonate). CHAPTER VIA: Nitrosohydroxylaminosulfonates. Hydroxylamine-*O*-sulfonic Acid, Selenium(IV) Chloride. CHAPTER VIB: Chromium(III) Iodide. Chromium(III) Acetylacetonate. Aquopentammine- and Acidopentamminechromium-(III) Salts. Tungsten Hexacarbonyl. Tripotassium Enneachloroditung-state(III). Uranium(IV) Chloride. Uranium(III) Chloride. Uranyl Chloride. Uranyl Hydrogen Orthophosphate 4-Hydrate. CHAPTER VIIA: Anhydrous Metal Chlorides. Chlorine(I) Compounds. Purification of "Carrier-free" Iodine 131 Activity. Polyhalogen Complex Salts. Typical Polyhalogen Complex Salts. CHAPTER VIII: Iron(II) Chloride 2-Hydrate. Cobalt(III) Sulfate 18-Hydrate. Dichloro(di-2-pyridylamine)cobalt-(II). Nitrosylpentamminecobalt(II) Chloride, Black, and Nitrosylpentamminecobalt(III) Chloride, Pink (Correction). Barium (Ethylenediaminetetraacetato)-cobaltate(III) 4-Hydrate. Cobalt(III) Acetylacetonate. Dicobalt Octacarbonyl. Cobalt Tetracarbonyl Hydride. Nickel Powder. Potassium Hexacyanodinickelate(I). Sodium and Potassium Nickel(IV) Paraperiodates. Ammonium Hexabromoosmate(IV). Ammonium Hexachloroosmate(IV). Platinum(II) Chloride. Tetrachloro-(diethylene) diplatinum(II). Index of Contributors. Subject Index. Formula Index.

ROCHOW—Inorganic Syntheses—Volume VI
Edited by EUGENE G. ROCHOW, Harvard University. *Inorg. Syn. Series.*
272 *pp.*, 6 *x* 9, 19 *illus.* (1960) $7.95*c*

CONTENTS—Preface. Potassium Dioxalatocuprate(II) 2-Hydrate. Copper(I) Iodide. Dipyridinesilver(I) Perchlorate. Anhydrous Magnesium Chloride. Magnesium Cyclopentadienide. Crystalline Basic Calcium Orthophosphate. Calcium Metal Powder. Finely Divided Calcium Metal. Mercury(II) Chloride Thiourea Complexes. Gallium(I) Gallium(III) Bromide. Halomethyl Derivatives of Silicon, Germanium, and Tin by the Diazomethane Method. The Diazotization of Thiosemicarbazide and 4-Alkyl and 4-Aryl Thiosemicarbazides. Refractory Metal Powders. Cesium Titanium Alum. Titanium III Chloride. Titanium III Chloride and Titanium III Bromide. Tetrazolone. Metal Biguanide Complexes. Chromium-(III) Biguanide Complexes. Tris(phenylbiguanide)-cobalt(III) Salts. Ethylenedibiguanidesilver(III) Compounds. Trimetaphosphimic Acid. Anhydrous Deuterophosphoric Acid. Phosphorus(III) Cyanide. Tri-*n*-Butylphosphine. An Improved All-glass Apparatus for the Preparation of Phosphonium Iodide. Trimeric Phosphonitrile Chloride and Tetrameric Phosphonitrile Chloride. Tripotassium Trimetaphosphimate Trisodium Trimetaphosphimate 1-Hydrate. Disodium Monoamidophosphate. Tetrasodium Imidodiphosphate. Pentasodium Diimidotriphosphate 6-Hydrate Phosphoryl Triamide. Thiophosphorus Triamide. Methyldiiodoarsine. Dimethyliodoarsine. Vanadium Oxytrichloride. Anhydrous Deuterosulfuric Acid. Sulfur Nitrides. Anhydrous Chromium III Chloride. Bisbenzenechromium(O) and Bisbenzenechromium(I) Iodide. Chloropentamminechromium(III) Chloride. Chromium(III) *O*-Diethyldithiophosphate. Preparation of Labile Compounds Under Protective Conditions Chromium(II) Salts. Molybdendum VI Diaxyacetylacetonate Acetylacetonate. Tripotassium Enneachloroditungstate(III)

and Pentapotassium Tetradecachlorotritungstate(III). Carbonyl Fluoride. Sulfuryl Fluoride. Thionyl Fluoride. Manganese (II) Acetylacetonate. Potassium Nitridorhenate(VII). Potassium Di-Thioferrate(III). Iron-(II) Chloride. Carbonatotetramminocobalt(III) Nitrate. Tris[Tetrammine-*n*-dihydroxocobalt(III)] Sulfate 4-Hydrate. Dichloroaquotriamminecobalt(III)-Chloride. Resolution of the tris(Ethylenediamine) cobalt(III) Ion. Cobalt III *Dextro-tris*(Ethylenediamine). Iodide by a Partial Asymmetric Synthesis. Trinitrotriamminecobalt(III). Resolution of the Ethylenediaminetetraacetatocobaltate(III) Ion. Resolution of *cis*-Dinitrobis(Ethylenediamine)Cobalt Ion. Bis-(Ethylenediamine)Nickel(II)Chloride. Tris(Ethylenediamine) Nickel(II) Chloride 2-Hydrate and Tris-(Propylenediamine) Nickel(II) Chloride 2-Hydrate. Tetrakis[Phosphorous(III) Chloride] Nitrido Osmium Compounds. Platinum (II) Chloride, *cis*- and *trans*-Dichlorobis(Diethyl Sulfide) Platinum(II). Metal-Diolefin Coordination Compounds. Index of Contributors. Subject Index. Formula Index. Cumulative Index.

KLEINBERG—Inorganic Syntheses—Volume VII

Edited by JACOB KLEINBERG, University of Kansas. *Inorg. Syn. Series.*

352 *pp.*, 6 *x* 9, 375 *illus.* (1963)....$8.95*r*

CONTENTS—Lithium Hydroxide and Lithium Oxide. Phenylbiguanide-*p*-Sulfonic Acid Complexes of Copper(II), Tetrakis (iodo(tri-*n*-butylphosphine) copper(I)] and Iodo(2,2′-bipyridine) (tri-*n*-butylphosphine) copper(I). Barium Iodate 1-Hydrate. Gallium(III) Nitride. Indium(I) Bromide. Hexachlorodisilixane. Trichlorosilanethiol. Tris(acetylacetonato)silicon Chloride. Hydrides of Germanium, Tin, Arsenic, and Antimony. Titanium(III) Chloride. Bis (tris(acetylacetonato) titanium(IV)] Hexachlorotitanate(IV). Zirconium(IV) Iodide. Biguanide Sulfate. Biguanide. Black Phosphorus. Pentacalcium Monohydroxyorthophosphate. Tetraammonium Pyrophosphate. (Triphenyl) arsinophosphonium Chloride. (Dimethylamido)phosphoryl Dichloride. Bis(dimethylamido)phosphoryl Chloride. Octamethylpyrophosphoramide. Trimeric and Tetrameric Phosphonitrilic Bromides. Phosphorus(V) Chloride-Boron Chloride Complex. Phosphorus(V) Chloride-Gallium(III) Chloride Complex. Methylbromoarsines. Vanadium(III) Fluoride. Vanadium(III) Sulfate. Vanadium(II) Sulfate. Vanadium(II) Hydroxide. Cyclopentadienyl Metal Carbonyls and Some Derivatives. Sulfur (S^{35}). Sulfur(IV) Fluoride. Peroxydisulfuryl Difluoride. Sodium Hydrogen Sulfide. Trichlorotris(pyridine)chromium(III). Cyclopentadienyl Tricarbonyl Hydrides of Chromium, Molybdenum, and Tungsten. Trichlorotris(pyridine)molybdenum(III). Potassium Octacyanotungstate(IV) 2-Hydrate. Uranyl Chloride 1-Hydrate. Sodium Fluoride(F^{18}). Chlorine-(Cl^{36})-Labeled Deuterium Chloride. Chlorine(Cl^{36})-Labeled Thionyl Chloride, Silicon Tetrachloride, Boron Chloride, Germanium(IV) Chloride, and Phosphorus-(III) Chloride. Anhydrous Metal Chlorides. Unipositive Halogen Complexes. Monopyridineiodine(I) Chloride. Anhydrous Hydrogen Iodide. Manganese-(III) Acetylactonate. Rhenium(III). Iodide. Potassium Hexachlororhenate(IV) and Potassium Hexabromorhenate(IV). Triiron Dodecacarbonyl. Sodium Salts of Carbonyl Hydrides Prepared in Ethereal Media. Iron-Labeled Cyclopentadienyl Iron Complexes. Tris-(3-nitroaccetylacetonato) cobalt(III) Inner Complexes of Cobalt(III) with Diethylenetriamine. Hydrated Rhodium(III) Chloride. Chloropamminerhodium(III) Salts, and a Note on the Recovery of Rhodium Wastes. *cis*- and *trans*-Tetrachlorobis(pyridine)iridium-(IV), *cis*- and *trans*-Trichlorotris(diethyl sulfide)-iridium(III), *cis*- and *trans*-Pyridium Tetrachlobis-(pyridine)iridate(III). Recovery of Platinum from Laboratory Residues. *cis*- and *trans*-Tetrachlorodiammineplatinum(IV), *cis* and *trans*-Dichlorodiammineplatinum(II), *cis*- and *trans*-Dichlorobis (tri-*n*-butylphosphine)platinum(II), *cis*- and *trans*-Dichlorobis(pyridine)platinum(II).

Instrumentation

BAIR—Introduction to Chemical Instrumentation

By EDWARD J. BAIR, Indiana University. *Series in Adv. Chem.*

368 *pp.*, 6 *x* 9, 271 *illus.* (1962)....$10.75*c*

An over-all examination of the process of generating which contain chemical information and reducing these signals to a useful form. Thus the book treats of the fundamentals of instrumental methods as applied to chemical problems. Although the author stresses principles and basic theory, he includes well-chosen examples and numerous illustrations to help make this logically organized work a practical guide as well as a good text and reference.

CONTENTS—INTRODUCTION—INSTRUMENTATION SIGNALS. Block Diagrams. Instrument Components and Signals. Frequency Spectrum of Signals. CHEMICAL SIGNAL SOURCES. Electromagnetic Radiation and Spectrometry. Atomic Energy Levels and Spectra. Molecular Electronic Energy Levels and Ultraviolet Absorption Spectra. Vibrational Energy Levels. Luminescence. Light Scattering and the Raman Effect. Rotational Fine Structure and the Shape of Spectral Bands. Refraction, Dispersion, Reflection, and Optical Rotation. Nuclear Magnetic Resonance. X-ray Spectrometry. X-ray Diffraction. Radioactivity. Dielectric Absorption and Electrolytic Conductance. Electrolytic Potentials. Electrolysis and Polarography. OPERATION OF ELECTRONIC INSTRUMENT COMPONENTS. Electrical Circuit Components. Frequency Response and Complex Impedance. Thermionic Emission and Vacuum Diodes. Grid Controlled Vacuum Tubes. Multigrid Vacuum Tubes. Gas Filled Tubes. Semiconductor Diodes. Transistors. Split Phase Induction Motor. THE OSCILLOSCOPE. The Cathode Ray Tube. Time Base or Sweep Circuits. Synchronization. NONLINEAR OPERATIONS AND SIGNALS. Multivibrator. Univibrator (Monostable Multivibrator). Eccles-Jordan Trigger (Bistable Multivibrator). Schmitt Trigger (Voltage Discriminator). Gating and Modulating Circuits. Clippers, Clamps, and DC Restoration. Applications of Nonlinear Circuits. ANALYSIS OF SMALL SIGNAL ELECTRONIC CIRCUITS. Small Signal Vacuum Tube Equivalent Circuit. Transistor Small Signal Equivalent Circuit. Feedback and Circuit Stability. Impedance Matching and Power Amplification. Frequency Response. NOISE, BAND PASS, AND INFORMATION. Properties of Random Noise. Superposition of Random Impulses and the Shot Effect. Thermal Noise. Band Pass Reduction and the Improvement Threshold. Information in the Presence of Noise. INSTRUMENTATION LABORATORY PRACTICE. Stray Signals, Shields, and Grounds. Circuit Design and Construction. Trouble-shooting. Examples of Useful Circuit Modules. EXAMPLES OF CHEMICAL INSTRUMENTS. Automatic Recording Potentiometer. Potentiometer Null Spectrophotometer. Optical Null Spectrophotometer. Time of Flight Mass Spectrometer. Controlled Potential and Derivative Polarography. Chemical Modulation Spectroscopy. INDEX.

LION—Instrumentation in Scientific Research

Electrical Input Transducers

By KURT S. LION, Massachusetts Institute of Technology.

313 *pp.*, 6 *x* 9, *illus.* (1959).....$10.75*r*

In this comparative study and analysis of electrical input transducers, the author seeks to provide research workers, engineers, and students with a complete collection of the existing basic methods and systems used as input transducers in electrical instrumentation. Almost all input transducers for mechanical, thermal, magnetic, and electric quantities and for optical and nuclear radiation are presented. The physical mechanisms involved in the operation of each transducer are described, as are the quantitative relationships between input and output, the range of application and the limitations, the errors, the response to evironmental influences, and the principal literature references.

CONTENTS—MECHANICAL INPUT TRANSDUCERS. Transducers for Linear Dimensions (Length or Thickness Gauges). Displacement or Force Transducers. Velocity, Acceleration Liquid Level Transducers. Pressure Transducers Above Atmospheric Pressure; Below Atmospheric Pressure. Flow Velocity Transducers. Humidity Transducers. TEMPERATURE TRANSDUCERS. Resistive Temperature Transducers. Inductive Temperature Transducers. Capacitive Temperature Transducers. Thermoelectric Transducers (Thermoelements). Noise Thermometers. MAGNETIC TRANSDUCERS. Induction Systems. Search Coils. Instruments Based Upon Magnetic Effects on Moving Charges. Transducers Based on Permeability Variation. Nuclear Magnetic Resonance Systems. Indirect Systems. ELECTRIC INPUT TRANSDUCERS. Transducers Responding to Free Charges. Transducers Responding to Space Charges. Transducers Responding to Space Potential. Trans-

ducers Responding to Surface Charges and Surface Potentials. Electric Field Strength Transducers. RADIATION TRANSDUCERS. Optical Radiation Transducers. Transducers for Ionizing Radiation.

Organic Chemistry

BIEMANN—Mass Spectrometry
Organic Chemistry Applications
By KLAUS BIEMANN, Massachusetts Institute of Technology. *Series in Adv. Chem.*
384 *pp.*, 6 *x* 9, 354 *illus.* (1962) $13.75*c*

An advanced treatise designed primarily for organic research chemists, summarizing recent developments in the use of mass spectra of relatively complex molecules in research in organic chemistry, particularly for the determination of structure. Major emphasis is placed on a thorough discussion of the interpretation of mass spectra and of the fragmentation processes which produce such a spectrum. The text is illustrated by a variety of mass spectra and includes seven chapters, dealing with labeled molecules, fatty acids, peptides, alkaloids, steroids, synthetic problems, etc.

CONTENTS—INSTRUMENTATION. Historical Development. Current Instrumentation. SAMPLE HANDLING AND OPERATING TECHNIQUES. The Inlet System. Vapor-Pressure Requirements. Amount of Sample Required. Introduction of the Sample into the Spectrometer. Special Techniques. General Operating Conditions (Single-focusing Instruments). Ionizing Current. Ionizing Potential. Purity of the Sample. Presentation of Data. Terminology. THE NATURE OF MASS SPECTRA AND THEIR INTERPRETATION. The Ionization Process. Fragmentation. Metastable Peaks. Multiply Charged Ions. Negative Ions. ADDITIONAL TECHNIQUES. Identity of Two Compounds. Mixtures. Frequently Encountered Artifacts. Rate of Effusion. Chemical Pretreatment. High-resolution Mass Spectra. Ionization and Appearance Potentials. THE MASS SPECTRA OF ISOTOPICALLY LABELED MOLECULES. Principle. Experimental Techniques. Incorporation of Stable Isotopes for Structure Determinations. Applications in the Investigation of Reaction Mechanisms. Applications in the Investigations of Biochemical Mechanisms. Applications in the Investigation of Electron-Impact Mechanisms. FATTY ACIDS AND RELATED SUBSTANCES. Methyl Esters of Long-chain Aliphatic Acids. Glycerides. Other Natural Products. AMINO ACIDS AND PEPTIDES. Derivatives of Amino Acids. The Determination of the Amino Acid Sequence in Peptides. Mass Spectra of Free Amino Acids and Peptides. ALKALOIDS. Identification of Degradation Products. The Correlation of Related Alkaloids with Identical Carbon Skeleton. Determination of Alkaloid Structure without Direct Correlation. STEROIDS AND RELATED SUBSTANCES. Pimaric Acids. Steroids. MISCELLANEOUS CLASSES. Carbohydrates. Nucleosides. Bitter Principles of Hop APPLICATIONS TO SYNTHETIC PROBLEMS. INDEX.

CRAM AND HAMMOND—Organic Chemistry, 2nd Ed.
By DONALD J. CRAM, UCLA; and GEORGE S. HAMMOND, California Institute of Technology.
In Press

The revised improved edition is at once, a modern integrated and comprehensive text suitable for a diversification of purposes. As before, the authors continue to stress the reaction-mechanism approach emphasizing the principles that govern organic reactions rather than relying on description alone. The book first acquaints the reader with structural concepts, the middle part considers organic reactions, class by class; and that last part includes a more conventional treatment of special topics. This approach stresses understanding. This edition offers clear and thorough explanations of all subject matter.

CRAM AND HAMMOND—Quimica Organica
In Press

DJERASSI—Optical Rotatory Dispersion
Applications to Organic Chemistry
By CARL DJERASSI, Stanford University. *Series in Adv. Chem.*
293 *pp.*, 6 *x* 9, *illus.* (1960) $9.50*r*

Rotatory dispersion is a physical tool used to solve problems in organic chemistry and biochemistry. As a phenomenon and as a subject for theoretical study, optical rotatory dispersion has been used especially with steroids, terpenes, amino acids, peptides, and proteins. This book covers all these areas, considering almost exclusively advances made since 1955, with emphasis on applications to organic chemistry and to certain biochemical fields.

CONTENTS—Introduction to Optical Rotatory Dispersion (by Anthony N. James and Berndt Sjoberg). Nomenclature. Instrumentation. Steroids. Bicyclic Ketones. Triterpenoids. Monocyclic and Aliphatic Carbonyl Compounds. α-Hydroxy Ketones. α-Haloketones. Determination of Absolute Configuration. Detection and Implication of Ketal Formation. Theory and Analysis of Rotatory Dispersion Curves (by Albert Moscowitz). Octant Rule. Thiones, Nitroalkanes, and Other Chromophores. Alcohols, α-Hydroxy Acids, and α-Amino Acids. Plain Dispersion Curves. Polypeptides and Proteins (by Elkan R. Blout). Bibliography. Nomenclature and Stereochemical Conventions. Author Index. Index of Compounds.

DREISBACH—Pressure-Volume Temperature Relationships of Organic Compounds
Compiled and developed by ROBERT R. DREISBACH, The Dow Chemical Co. Third Edition.
303 *pp.*, 11 *x* 8½ (1952) $10.00*r*

Professional reference for reading directly the variation of vapor pressure with temperature of a compound belonging to one of the 23 Cox Chart families. Includes simple equations and their parameters for calculating accurately: the rate of change of boiling point with pressure, the latent heat of vaporization at any temperature, orthobaric vapor density to a reduced temperature (T_R) of 0.92, and the densities of liquids at various temperatures; also, for estimating critical temperatures of polar and non-polar substances, and the accuracy of density and refractive index determinations.

CONTENTS—Table of Symbols. Cox Chart Families and Their Infinite Points. How to Use the Tables. Tables of Vapor Pressure-Temperature Relationships.

ELIEL—Stereochemistry of Carbon Compounds
By ERNEST L. ELIEL, University of Notre Dame. *Series in Adv. Chem.*
902 *pp.*, 6 *x* 9, 392 *illus.* (1962) $15.00*c*

An advanced textbook dealing with the stereochemistry of organic molecules. Teaches the essential concepts of three-dimensional molecular architecture, and the assessment of physical and chemical properties of such molecules for organic chemists; and stereochemical concepts for the understanding of the physical properties of a variety of compounds with which physical chemists work. Conformational analysis is covered thoroughly. Much emphasis is given to the interrelation of stereochemistry and physical properties. The text also includes coverage of stereoselective synthesis (of natural products) and stereoregulated polymerization; ultraviolet and infrared absorption characteristics; nuclear magnetic resonance and optical rotatory dispersion; microwave data; and Brewster's semiempirical treatment of optical rotation data.

CONTENTS—Introduction. Optical Isomerism. Optical Isomerism Due to Asymetric Carbon Atoms. Racemic Modifications. Configuration. Conformation and Reactivity in Acyclic Compounds. Some Aspects of the Stereochemistry of Ring Systems. The Actual Shape of Six-Membered Rings and Its Relation to Properties

and Reactivity. The Shape of Rings Other Than Six-Membered Ones. Fused Rings and Bridged Rings. The Stereoisomerism of Allenes and Related Compounds. Geometrical Isomerism and the Stereochemistry of Olefins. The Stereochemistry of Tricovalent Carbon. Optical Rotation and Optical Rotatory Dispersion. Stereoselective Synthesis and Stereoregulated Polymerization.

ENGLISH AND CASSIDY—Principles of Organic Chemistry

An Introductory Text in Organic Chemistry
By JAMES ENGLISH, JR. and HAROLD G. CASSIDY, Yale University. Third Edition.
528 *pp.*, 6 *x* 9, 34 *illus.* (1961).....$8.95*c*
Laboratory Manual
120 *pp.* $3.95*c*

This highly successful work is a true teaching text and not a hybrid text-reference, as many so-called texts are. It presents a unified treatment of aliphatic and aromatic compounds, thereby emphasizing the essential unity of organic chemical theory, and omits much material of a reference nature. Molecular orbital ideas and their equivalents in resonance theory are introduced early and maintained throughout the text. The abundant problems, designed for teaching, are tied into each chapter. The exercises are a noteworthy feature of the book.

CONTENTS—Introduction. Hydrocarbons: The Paraffins. Hydrocarbons: The Olefins. Hydrocarbons: The Cycloparaffins. Hydrocarbons: The Acetylenes. Hydrocarbons: The Aromatic Hydrocarbons. Hydrocarbons: The Carbonaceous Minerals—Hydrocarbon Gases, Petroleum, and Coal. Alcohols and Phenols. Halogen Compounds. Ethers. Carbonyl Compounds: Aldehydes and Ketones. Carboxylic Acids. Carboxylic Acid Derivatives. The Absorption of Light by Organic Compounds. Amines and Diazonium Compounds. Sulfur Compounds. Carbonic Acid and Its Derivatives. Substituted Acids: Halogen, Hydroxy, and Olefinic Carboxylic Acids. Substituted Acids: Keto Acids and Malonic Ester. Substitute Acids: Amino Acids. Quinones, Redox, and Acid-base Indicators. Optical Isomerism. Carbohydrates: The Sugars. Macromolecules: Polysaccharides, Proteins, and Plastics. Chemistry of Heterocycles. Review Exercises. Answers to Exercises. Tables of Atomic Weights.

HANSCH AND HELMKAMP—Organic Chemistry, 2nd Ed.

By CORWIN HANSCH, Pomona College; and GEORGE HELMKAMP, Univ. of California, Riverside.
In Press

Teaches the beginner organic synthesis by showing him solutions to a large number of synthetic problems, with answers to about half of the problems. This text provides an outline of organic chemistry which follows the general pattern of nonintegrated (aliphatic and aromatic) approaches to the subject.

HATCH—Organic Chemistry

By LEWIS F. HATCH, University of Texas.
324 *pp.*, 6 *x* 9, 75 *illus.* (1955).....$6.50*c*
Laboratory Experiments in Organic Chemistry.
153 *pp.*, 9 *x* 11, *illus.* (1955).....$3.95*c*

Emphasis is placed on the characteristic reactions of various functional groups without an arbitrary separation of aliphatic and aromatic compounds. Particular attention has been given to the practical uses of various organic compounds and to their industrial preparation. There are several chapters on biological chemistry. Recent advances in agricultural chemistry, biochemistry, and medicinals are especially well covered.

CONTENTS—Organic Chemistry. Paraffins, Olefins, and Acetylenes. Cycloparaffins and Aromatic Hydrocarbons. Petroleum. Halogen Compounds. Alcohols, Phenols, and Ethers. Aldehydes and Ketones. Organic Acids. Derivatives of Organic Acids. Nitro Compounds, Explosives, Sulfur Compounds. Amines and Their Derivatives. Dyes. Proteins. Fats, Waxes, and Detergents. Optical Isomerism. Carbohydrates. Enzymes, Vitamins, Hormones, and Antibiotics. Medicinals and Pharmaceuticals. Polymers. Organic Chemistry and Agriculture.

KELLEY—Organic Chemistry

By LOUISE KELLEY, formerly Goucher College. This edition is a revision of *Organic Chemistry* by G. ALBERT HILL and LOUISE KELLEY.
728 *pp.*, 6 *x* 9, 118 *illus.* (1957)....$9.50*c*

In this text, industrial processes for the synthesis of important substances are often described in detail for the purpose of providing some understanding of the difference in materials used and in reaction conditions between a synthesis carried out in the laboratory and the commercial synthesis of the same substance. The I.U.C. system of nomenclature is used throughout the text, but trivial and unofficial names are frequently given in order to enable the student to acquire the familiarity with nomenclature which is usually necessary for the location of organic substances in the chemical literature. The questions at the ends of the chapters are designed to give the student practice in utilizing the material in the chapter and in applying it to reactions or syntheses not described there.

CONTENTS—Preface. Introduction. Atomic Structure. Types of bonds in organic substances. Phenomena associated with bonds. Saturated hydrocarbons: alkanes. Unsaturated hydrocarbons: alkenes; alkadienes; rubber. Unsaturated hydrocarbons: alkynes. Natural gas. Petroleum. Motor fuels. Alcohols. Ethers. Saturated monocarboxylic acids. Acid halides. Acid anhydrides. Esters. Fats and related compounds. Soaps and other surface-active agents. Organic reactions. Resonance. Some reaction mechanisms. Molecular orbital theory in relation to covalent bonding and resonance. Halogen derivatives of aliphatic hydrocarbons. Aldehydes and ketones. Aliphatic nitrogen compounds: amines. Aliphatic nitrogen compounds: amides, cyanides, and others. Aliphatic sulfur compounds. Isomerism. Stereoisomerism. Aliphatic monocarboxylic acids: unsaturated, halogenated, hydroxy, and keto acids. Aliphatic polycarboxylic acids. Amino acids and proteins. Carbohydrates. Organometallic compounds. Alicyclic compounds. Benzene and its homologs. Aromatic nitrogen compounds: nitro compounds. Aromatic nitrogen compounds: amines; cyanides. Aromatic nitrogen compounds: diazonium salts. Aromatic sulfonic acids. Aromatic halogen compounds. Phenols and phenol derivatives. Aromatic alcohols and ethers. Aromatic aldehydes and ketones. Aromatic carboxylic acids and derivatives. Polynuclear hydrocarbons. Condensed polynuclear aromatic hydrocarbons and derivatives. Dyes. Terpenes. Heterocyclic compounds. Alkaloids. Steroids. Plant pigments. Vitamins. Appendix A: Symbols used. Appendix B: The balancing of equations for oxidation-reduction reactions. Appendix C: List of reference books and journals. Appendix D: Tables. Index.

MULDOON AND BLAKE—Systematic Organic Chemistry

Theory and Applications
By HUGH C. MULDOON, deceased, and MARTIN I. BLAKE.
779 *pp.*, 6 *x* 9, 150 *illus.* (1957).....$8.95*c*

This book is planned to give beginners in the field a sound basic knowledge of the science, one that will not only satisfy immediate needs but also serve as a foundation for advanced study either in organic chemistry or related fields. The emphasis throughout is placed on principles and their applications, but practical procedures have not been overlooked. Current industrial methods for manufacturing commercially important synthetics are outlined, and the industrial and domestic uses of hundreds of compounds have been indicated.

CONTENTS—Introduction. Analysis, Structure, Classification. Alkanes, Cycloalkanes. Unsaturated Aliphatic Hydrocarbons. Unsaturated Aliphatic Hydrocarbons

(Continued). Petroleum. Resonance. Alkadienes. Rubber. Haloalkanes, Unsaturated Halogen Derivatives. Monohydric Alcohols. Optical Isomerism. Unsaturated Alcohols, Polyhydric Alcohols. Ethers. Aldehydes. Ketones. Monocarboxylic Acids. Unsaturated Monocarboxylic Acids. Certain Acid Derivatives. Polycarboxylic Acids. Hydroxy Acids. Esters. Lipids. Aliphatic Nitrogen Compounds, Amines, Amides. Aliphatic Nitrogen Compounds (Continued). Amino Acids, Proteins. Metallo-organic Compounds, Arsenic, Sulfur, and Silicon Derivatives. Carbohydrates (I). Carbohydrates (II). Aromatic Hydrocarbons. Benzene Series. Aromatic Halogen, Sulfonic, and Nitro Derivatives. Aromatic Amines. Diazo Compounds. Aromatic Alcohols, Phenols, Aromatic Ethers. Aromatic Aldehydes, Aromatic Ketones, Quinones. Aromatic Acids, Acid Derivatives. Hydroxy Aromatic Acids, Diprotic Aromatic Acids. Aromatic Arsenicals and Mercurials. Polynuclear Compounds. Heterocyclic Compounds. Heterocyclic Compounds (Continued). Terpenes and Related Compounds. Alkaloids. Medicinal Glycosides. Synthetic Dyes. Enzymes. Antibiotics. Steroids, Hormones, Natural Pigments, Vitamins. Index.

ROBERTS—Nuclear Magnetic Resonance Applications to Organic Chemistry

By JOHN D. ROBERTS, California Institute of Technology. *Series in Adv. Chem.*

118 *pp.*, 6 *x* 9, 116 *illus.* (1959).....$6.50*r*

Nuclear magnetic resonance is a new analytical method for solving problems in organic chemistry which cannot be handled by any other method. This pioneer book provides a simple and practical introduction to the theory of nuclear magnetic resonance spectroscopy and illustrates a variety of applications to structural, analytical, and kinetic research. An unusual feature is a number of problems involving interpretation of practical spectra of organic compounds.

CONTENTS—Preface. Introduction—The Nuclear Resonance Phenomenon. The Chemical Shift. Spin-Spin Splitting. Nuclear Magnetic Resonance and Reaction Kinetics. Nuclear Quadrupole Relaxation Effects—Double Resonance. APPENDIX A—The Bloch Equations—Absorption and Dispersion Modes. APPENDIX B—General References. APPENDIX C—Problems.

STREITWIESER—Solvolytic Displacement Reactions

By ANDREW STREITWIESER, JR., University of California, Berkeley. *Series in Adv. Chem.*

224 *pp.*, 6 *x* 9, 42 *illus.* (1962).....$5.00*c*

Most of this book is a direct reprint of a review article, "Solvolytic Displacement Reactions at Saturated Carbon Atoms," published in *Chemical Reviews*, 1956. The author has added a supplement pointing up important developments in the field since publication of the original article. The purpose of the book is to present a comprehensive treatment of the solvolytic displacement reaction of organic chemistry. The experimental data are presented in terms of a unified theory; many facts are summarized in numerous tables. An outstanding feature is the extensive use of modern organic chemical theory.

CONTENTS—INTRODUCTION. THE GENERALIZED DISPLACEMENT REACTION. THE DIRECT DISPLACEMENT REACTION. Kinetics and Stereochemistry. Mechanism: The Transition State Theory; Structure of the Transition State; Possible Existence of an Intermediate. Relative Rates: Energy and Entropy of Activation; Concept of Relative Rates; Structural Effects in the Substrate; Structural Effects of the Leaving Group; The Effect of Solvent. THE SOLVOLYSIS REACTION. Introduction: Rate Dependency on Lyate Ion; The Olson-Halford Equation; The Ionization Hypothesis. The S_N1 Mechanism. The Ionization Step; The Recombination Step; The Product Step; Allylic Rearrangement; Stereochemistry; "Lifetime" of the Carbonium Ion; Inadequacies of the S_N1 Mechanism. Recent Mechanistic Postulations: Hypotheses Resulting from Kinetics; A Structural Hypothesis; Application to Specific Systems; Additional Evidence for the Structural Hypothesis. Special Effects: Steric Effects; Effect of Ring Size; Deuterium Isotope Effects; a-Heterastoms. INTRAMOLECULAR DISPLACEMENTS. Neighboring Carbanion. Neighboring Nitrogen. Neighboring Sulfur. Neighboring Oxygen: Neighboring Oxide Ion; Neighboring Hydroxyl; Neighboring Aloxy Group; Neighboring Ester; Neighboring Carboxylate Ion; Neighboring Carboxylic Acid and Ester; Neighboring Benzamido Group. Neigboring Halogen. Neighboring Carbon and Hydrogen: Neighboring Saturated Carbon—Wagner-Meerwein Rearrangements; Neighbor Hydrogen; Neighboring Unsaturated Groups. RELATED REACTIONS. Alkylation of Aromatic Systems. Chlorosulfites and Chlorocarbonates. Reactions of Carbinols with Acids. Simultaneous Double Rearrangements. SUPPLEMENT. REFERENCES. SUPPLEMENTARY REFERENCES. INDEX.

WERTHEIM—Textbook of Organic Chemistry

By EDGAR WERTHEIM, University of Arkansas. Third Edition.

958 *pp.*, 105 *illus.* (1951).....$9.50*c*

Laboratory Guide for Organic Chemistry. Third Edition.

457 *pp.*, 8½ *x* 11, 24 *illus.* (1948)...$5.95*c*

Practical Organic Chemistry

372 *pp.*, 8½ *x* 11, 23 *illus.* (1953)...$5.50*c*

Long recognized as a leader for a beginning course in organic chemistry, this edition includes the electronic approach and places double bonds throughout. New questions and problems have been added to each chapter.

CONTENTS—PART I. ALIPHATIC COMPOUNDS. Introduction; The Methane Series of Hydrocarbons (Paraffins, Alkanes); Unsaturated Hydrocarbons, Ethylene Series, Diolefins, Dienes, Acetylene Series; Halogen Derivatives of Hydrocarbons; Alcohols, Thio Alcohols; Ethers, Thio Ethers; Aldehydes and Ketones; Monocarboxylic Acids, Salts, Thio Acids; Acid Derivatives (I) Acyl Halides, Acid Anhydrides; Acid Derivatives (II) Esters and Related Compounds; Acid Derivatives (III) Acid Amides; Substituted Acids; Dicarboxylic Acids; Urea, Thiourea Guanidine, Uric Acid; Nitriles, Isonitriles, and Related Compounds; Nitro Compounds; Amines; Compounds of Phosphorus, Arsenic, Sulfur, Silicon, and Metals; Isomerism, Optical Activity; Carbohydrates. PART II. AROMATIC COMPOUNDS. Aromatic Hydrocarbons; Halogen Derivatives of Aromatic Hydrocarbons; Sulfonic Acids; Nitro Compounds; Aromatic Amines; Diazo Compounds and Derivatives; Aromatic Alcohols, Phenols; Aromatic Acids; Aromatic Aldehydes, Ketones, and Quinones; Grignard and Friedel-Crafts Reactions; Naphthalene, Anthracene, and Related Compounds; Aromatic Arsenic, Phosphorus, Antimony, and Mercury Compounds; Alicyclic Compounds; Terpenes; Heterocyclic Compounds; Alkaloids; Dyes; Proteins; Glycosides, Enzymes, Hormones, Vitamins, Antibiotics; Identification of Organic Compounds; Some Electronic Reaction Mechanisms. APPENDIX; INDEX.

WERTHEIM AND JESKEY—Introductory Organic Chemistry

By EDGAR WERTHEIM, University of Arkansas, and HAROLD JESKEY, Southern Methodist University. Third Edition.

476 *pp.*, 6 *x* 9, *illus.* (1956).....$6.95*c*

Experiments in Organic Chemistry (Wertheim). Third Edition.

221 *pp.*, 8½ *x* 11, *illus.* (1956).....$3.75*c*

Presents the fundamentals of aliphatic chemistry and, with less detail, aromatic chemistry. Discusses digestion, metabolism, energy considerations with reference to foods, foods and dietary factors, glycosides, enzymes, hormones, and vitamins. Electronic structures are used wherever possible and applications to agriculture are emphasized.

CONTENTS—Preface. Introduction; Saturated Hydrocarbons—Alkanes (Methane Series, Paraffin Series); Unsaturated Hydrocarbons—Alkenes (Ethylene Series, Olefins); Dienes, Polyenes; Alkynes (Acetylene Series); Halogen Derivatives; Aliphatic Alcohols; Ethers; Aldehydes and Ketones; Aliphatic Monocarboxylic Acids; Salts; Acid Chlorides; Acid Anhydrides; Ester. Fats, Oils, and Waxes. Soaps; Hydroxy Acids. Optical Activity; Dicarboxylic Acids and Similar Compounds. Amides; Urea; Amines; Carbohydrates; Aromatic Hydrocarbons; Halogen Compounds; Sulfonic Acids; Aromatic Nitro Compounds; Amines; Diazo Compounds; Aromatic Alcohols; Phenols; Aromatic Alde-

hydes; Ketones; Acids; Terpenes; Dyes; Heterocyclic Compounds; Amino Acids; Proteins; Glycosides; Enzymes; Hormones; Vitamins; Sterols; Digestion and Absorption of Foods; Metabolism; Nutrition: Quantitative Considerations; Foods and Dietary Necessities; Glossary; Reference Books; Index.

WIBERG—Laboratory Technique in Organic Chemistry

By KENNETH B. WIBERG, Yale University. *Series in Adv. Chem.*

262 *pp.*, 6 *x* 9 (1960).....$7.50*c*

Practicality is a strong feature of this book designed to introduce advanced undergraduates and beginning graduate students to the basic methods of organic chemistry laboratory technique. It covers the procedures and methods of purification of liquids, solids, and gases, and then considers the methods of separation and purification based on partition between phases, such as chromatography, and the techniques involved in carrying out a reaction. The subject matter is considered in terms of the phase in which the component is found, i.e., gas, liquid and solid, and the methods particularly applicable to that phase are considered together.

CONTENTS—LIQUIDS. A. *Physical Properties of Liquids.* Density. Refractive Index. Vapor Pressure. Determination of the Boiling Point. Determination of Molecular Weights. Effect of Structure on the Boiling Point. Effect of Pressure on the Boiling Point. B. *Purification of Liquids.* Pretreatment Prior to Distillation. Simple Distillation. Distillation under Reduced Pressure. Fractional Distillation. Types of Fractionating Columns. Accessory Equipment. Fractional Distillation under Reduced Pressure. Molecular Distillation. Steam Distillation. SOLIDS. A. *Physical Properties of Solids.* Vapor Pressure. Melting Points of Solids. Determination of Melting Points. Thermometers and Thermometer Corrections. Melting Point Depression. Melting Points of Mixtures. Solubility. B. *Purification of Solids.* Recrystallization. Inducing Crystallization. Filtration. Drying. Fractional Crystallization. Precipitation. Distillation. Sublimation. Fractional Freezing. Zone Melting. GASES. A. *Physical Properties of Gases.* Pressure. Vapor Density. Heat Capacity and Thermal Conductivity. B. *Purification of Gases.* Vacuum Lines, Pumping System. Vacuum Manifold. Toepler Pump. Stopcocks and Lubricants. Simple Distillation. Fractional Distillation. Diffusion. Purification of Gases by Chemical Methods. ADSORPTION AND EXTRACTION. A. *Adsorption.* Distribution between Liquid and Solid Phases. Adsorbents. Standardization of Adsorbents. Effect of the Structure of the Solute on the Degree of Adsorption. Batchwise Adsorption and Decolorization. Chromatography. Advantages and Limitations of Chromatography. Partition Chromatography and Paper Chromatography. Vapor Phase Chromatography. Ion Exchange. B. *Extraction.* Simple Extraction. Continuous Liquid-Liquid Extraction. Continuous Solid-Liquid Extraction. Multiple-Contact Pseudocountercurrent Extraction. Countercurrent Extraction. THE REACTION. A. *Apparatus.* Flasks. Condensers. Stirrers and Stirring Motors. Addition of Liquids. Addition of Solids. Addition of Gases. Heating and Cooling Baths. Water Separators. Apparatus for Conducting Reactions at High Dilution. Reactions Effected in an Inert Atmosphere. Thermostate. Hydrogenation Apparatus. Ultraviolet Light Sources. B. *Purification of Solvents.*

MORTON—The Chemistry of Heterocyclic Compounds

By AVERY A. MORTON, Massachusetts Institute of Technology.

549 *pp.*, 5½ *x* 8 (1946).....$11.50*c*

A well-rounded, authoritative presentation of the methods of formation of the various hetero rings, the chemical behavior of each system with particular reference to the similarity which that system has to related functions in aliphatic and aromatic chemistry, and the compounds of major importance which have made heterocyclic chemistry interesting.

CONTENTS—The Furan Compounds; Condensed Furan Systems; Thiophene and Condensed Thiophene Systems; Pyrroles; Di- and Polypyrryl Compounds; Porphyrins and Phthalocyanins; Condensed Pyrrole System; Pyrans, Pyrones, and Related Compounds; The Pyridine Group; The Quinoline Compounds; Isoquinolines; Acridines and Other Condensed Compounds; Azoles, Azolones, and Related Systems; The Azoles; The Compounds; The Azines and Related Compounds.

STONE—Determination of Organic Compounds

By K. G. STONE, Michigan State University.

233 *pp.*, 6 *x* 9 (1956).....$6.50*c*

An introduction to the field of organic analysis, this text covers the general subject of the determination of the functional groups according to the qualitative classification, and includes both volumetric and gravimetric methods, macro- and semi-micro. Stress is placed on the ideas as well as the procedural details. This text will provide teaching material and ideas for courses dealing with quantitative organic analysis at the senior or graduate level.

CONTENTS—Preface. Introduction. The Determination of Water. Hydrocarbons. Alcohols. Aldehydes and Ketones. Carboxylic Acids and Acid Derivatives. Phenols. Nitro Compounds. Amines and Amine Salts. Compounds Containing Sulfur. Miscellaneous Group Determinations. Index.

Physical Organic Chemistry

HAMMETT—Physical Organic Chemistry

By LOUIS P. HAMMETT, Emeritus, Columbia University.

404 *pp.*, 5½ *x* 8 (1940).....$9.50*c*

Dealing with the borderline field between physical chemistry and organic chemistry this important book presents the results of the application of physical chemical methods to the problem of equilibrium, the rate, and the reactions of organic chemistry; that is, to the prediction of the direction and the yield of the organic chemists' procedures.

CONTENTS—Table of Symbols and of Values of Constants; Structural Theory: Nonelectrolytes; Structural Theory: Electrolytes; Equilibrium and Energy of Reaction; Reaction Rates and Mechanisms: Energies, Free Energies, and Entropies of Activation; The Displacement Reaction; Stereochemistry of the Displacement Reaction; The Effect of Structure of Reactivity; Enolization and Related Reactions; The Quantitative Study of Acids and Bases; Carbonium-ion Reactions; Carbonyl-addition Reactions; Atom and Radical Reaction: Other Redox Reactions.

HINE—Physical Organic Chemistry

By JACK HINE, Georgia Institute of Technology. *Series in Adv. Chem.* Second Edition.

544 *pp.*, 6 *x* 9, 400 *illus.* (1962)....$11.50*c*

Here is an extensive revision and general contemporization of this well-known and widely used work designed for students who have completed elementary organic and physical chemistry. The book deals with the mechanisms of organic reactions and the effect of changing reaction variables, particularly reactant structures, on reactivity in these reactions. More than half the book deals with polar reactions, but appropriate space is given to free-radical reactions. All material has been revised in the light of present-day research.

CONTENTS—The Structure of Organic Molecules. Acids and Bases. Kinetics and Reaction Mechanisms. Quantitative Correlations of Reaction Rates and Equilibria. Acid-Base Catalysis. Mechanisms for Nucleophilic Displacements on Carbon. Reactivity in Nucleophilic Displacements on Carbon. Polar Elimination Reactions. Polar Addition to the Carbon-Carbon Multiple Bonds. Carbanions and Enolization. Addition to Aldehydes and Ketones. Formation and Reactions of Esters and Related Compounds. Some Carbon-Carbon Bond Formation and Cleavage Reactions of Carboxylic Acid Derivatives. Rearrangements Due to Electron-deficient Carbon. Rearrangements Due to Electron-deficient Nitrogen and Oxygen Atoms. Electrophilic Aromatic Substitution. Nucleophilic Substitution at Aromatic and Vinyl Carbon. Relatively Stable Free Radicals.

The Formation of Reactive Free Radicals. The Formation of Reactive Free Radicals. Addition of Free Radicals to Olefins. Radical Decomposition of Peroxides and Azo and Diazonium Compounds. Some Reactions Involving Radical Displacements. Stereochemistry and Rearrangements of Free Radicals. Methylenes. Multicenter-type Reactions. NAME INDEX. SUBJECT INDEX.

Physical Chemistry

AMSDEN—Physical Chemistry for Premedical Students

By JOHN P. AMSDEN, Dartmouth College. Second Edition.

317 *pp.*, 6 *x* 9, 56 *illus.* (1950).....$6.50*c*

Written especially for a one-semester course for premedical students, this college text includes only those portions of elementary physical chemistry which will be of value to the medical student in his later professional work. The second edition has been largely rewritten for timeliness and greater clarity. A correlated list of visual aids is included.

CONTENTS—To the Student. Dimensions and Units. Gases. Liquids. Solutions. Properties of Solutions of Nonelectrolytes. Properties of Solutions of Electrolytes. Chemical Equilibrium. Thermodynamics. Hydronium Ion. Oxidation and Reduction. Speed of Reaction. Catalysis. Adsorption. The Colloidal State. The Donnan Equilibrium. List of Visual Materials. Index. Table of Logarithms.

BARROW—Introduction to Molecular Spectroscopy

By GORDON M. BARROW, Case Institute of Technology.

332 *pp.*, 6⅜ *x* 9¼, 115 *illus.* (1962).$10.75*c*

The author seeks to bridge the gap between cursory treatments in undergraduate texts and complex works for the specialist or research worker. This book will give the senior or graduate student sufficient knowledge of the principles of molecular spectroscopy to enable him to approach advanced reference books and research literature, and will also give the chemist using spectroscopic techniques for analytical purposes a deeper understanding of the background of the various techniques.

CONTENTS—INTRODUCTION TO THE THEORETICAL TREATMENT OF MOLECULAR SYSTEMS. The Recognition of Quantum Restrictions. The Bohr Theory of Hydrogen Atom. The Wave Nature of Particles. The Time-independent Schrödinger Equation. The Particle-in-a-box Problem. Normalization of Wave Functions. Orthogonality. Symmetry Properties of Wave Functions. The Quantum-mechanical Average. The Boltzmann Distribution. THE VIBRATIONAL ENERGIES OF A DIATOMIC MOLECULE. The Vibrations of a Single Particle (Classical). The Vibrations of Two Particles Connected by a Spring (Classical). The Potential-energy Function for a Chemical Bond. The Quantum-mechanical Solutions of the Harmonic Oscillator. Vibrational Absorption Spectra of Diatomic Molecules. The Anharmonicity of Molecular Vibrations. THE ROTATIONAL ENERGIES OF LINEAR MOLECULES. The Rotation of a Linear System (Classical). The Rotation of a Linear System (Quantum Mechanical). Rotational Energy-level Populations. Rotational Spectra of Rigid, Linear Molecules. The Nonrigid Rotor. THE ABSORPTION AND EMISSION OF RADIATION. The Time-dependent Schrödinger. Induced Quantum Transitions. The Interaction of Electromagnetic Radiation with a Molecualr System. Comparison with Experimental Quantities. The Basis of Selection Rules. The Integrated Absorption Coefficient for a Transition of a Particle in a Box. Induced Emission and Induced Absorption. The Integrated Absorption Coefficient for a Vibrational Transition. The Intensities of Absorption Bands Due to Electronic Transitions. ROTATIONAL SPECTRA. Rotational Selection Rules for Linear Molecules. The Stark Effect in Molecular Rotation Spectra. Molecular Rotation—Nuclear Spin Coupling. The Positive and Negative Character of the Wave Functions of Linear Molecules. Symmetric-Antisymmetric Character and Statistical Weight of Homonuclear Linear Molecules. The Rotational Energy of Symmetric Top. Selection Rules and Spectra of Symmetric Tops. Results from Analyses of Rotation Spectra of Symmetric-top Molecules. The Energy Levels of Asymmetric-top Molecules. Selection Rules, Spectra, and Structure Results for Asymmetric-top Molecules. THE VIBRATIONS OF POLYATOMIC MOLECULES. The Number of Independent Vibrations of a Polyatomic Molecule. The Nature of Normal Vibrations and Normal Coordinates. Quantum-mechanical Treatment of the Vibrations of Polyatomic Molecules. The Symmetry Properties of Normal Coordinates. ROTATION-VIBRATION SPECTRA. Selection Rules and Transitions for the Rigid Rotor-Harmonic Oscillator Model. The Relative Intensities of the Components of a Rotation-Vibration Absorption Band. Coupling of Rotation and Vibration. Parallel Bands of Linear Molecules. Perpendicular Bands of Linear Molecules. Parallel Bands of Symmetric-top Molecules. Perpendicular Bands of Symmetric-top Molecules. MOLECULAR SYMMETRY AND GROUP THEORY. Symmetry Elements, Symmetry Operations, and Point Groups. Symmetry Operations on Molecular Motions. Symmetry Species and Character Tables. The Nature of a Group. The Symmetry Operations as a Group. Representations of a Group. Reducible and Irreducible Representations. The Irreducible Representations as Orthogonal Vectors. Characters of Representations. Classes. Analysis of Reducible Representation. The Characters for the Reducible Representation of Molecular Motion. Number of Normal Modes of Various Symmetry Types. The Infrared Active Fundamentals. The Symmetry of Group Vibrations. CALCULATION OF VIBRATIONAL FREQUENCIES AND NORMAL COORDINATES OF POLYATOMIC MOLECULES. The Kinetic-energy Expressions for a Polyatomic Molecule. The Potential-energy Expression for a Polyatomic Molecule. Use of Lagrange's Equation in Molecular-vibration Problems. The Stretching Vibrations of a Linear Triatomic Molecule. Use of Symmetry in Vibrational Problems. Solution of Vibrational Problems in Internal Coordinates by the Method of Wilson. Formation of the *G* Matrix by a Vectorial Method. Use of Symmetry in Vibrational Problems. Solution of Vibrational Problems in Internal Coordinates by the Method of Wilson. Formation of the *G* Matrix by a Vectorial Method. Use of Symmetry Coordinates in Wilson's Method. THE ELECTRONIC SPECTRA OF DIATOMIC MOLECULES. The Vibrational Structure of Electronic Bands. Rotational Structure of Electronic Bands. Electronic States of Atoms. Electron Orbitals in Diatomic Molecules. Electronic States in Diatomic Molecules. Potential-energy Curves for Electronic States of Diatomic Molecules. ELECTRONIC SPECTRA OF POLYATOMIC MOLECULES. Electronic States of Localized Groups. Electronic Transitions and Absorption Bands. Conjugated Systems by the Free-electron Model. Electronic States and Transitions in Aromatic Systems. Electron Orbitals of Coordination Compounds. Electronic States of Coordination Compounds. Nonradiative Processes. Fluorescence. INDEX.

BARROW—Physical Chemistry

By GORDON M. BARROW, Case Institute of Technology.

695 *pp.*, 6 *x* 9, *illus.* (1961).....$9.50*c*

The spirit of modern physical chemistry animates this fresh, vital approach to the introductory undergraduate course. The author treats all the subjects customarily dealt with in such a course, such as thermodynamics, states of matter, and kinetics. More important, he unifies them by interpretations based on molecular structure and behavior. The book develops the basic concepts of physical chemistry, and introduces the techniques—both theoretical and experimental—now important in the development of the subject.

CONTENTS—Properties of Gases. The Kinetic Molecular Theory of Gases. Introduction to Atomic and Molecular Structure. The First Law of Thermodynamics. Thermochemistry. Entropy and the Second and Third Laws of Thermodynamics. Free Energy and Chemical Equilibria. Introduction to the Theory of Chemical Bonding. The Nature of the Chemical Bond. Experimental Study of Molecular Structure. The Rates and Mechanisms of Chemical Reactions. Liquids. Crystals. Colligative Properties of Solutions. The Nature of Electrolytes in Solution. The Thermodynamics of Nonideal Systems. The Electromotive Force of Chemical Cells. Adsorption and Heterogeneous Catalysis. Macromolecules. INDEX.

BENSON—Foundations of Chemical Kinetics

By SIDNEY W. BENSON, University of Southern California. *Series in Adv. Chem.*

703 *pp.*, 6 *x* 9, *illus.* (1960).....$13.50*r*

The author's purpose is twofold. First, to present to the elementary student a critical and complete account of the theoretical background of chemical kinetics. Also to introduce him to the methods of utilization of kinetic concepts in such diverse areas as catalysis, enzymes and electrode reactions. Second, to provide a monograph for workers in the field of gas phase and free radical kinetics and the treatment of gas and free radical reactions is presented in great detail. The latter material is arranged, however, so that parts may be selected for use in course work. A set of problems designed to follow the sequence of topics in the text is given in the appendix.

CONTENTS—THE PHENOMENOLOGICAL DESCRIPTION OF CHEMICAL RATE PROCESSES. The Description of Reacting Systems. Mathematical Characterization of Simple Kinetic Systems. Mathematical Characterization of Complex Kinetic Systems. Experimental Characterization of Simple Kinetic Systems. Experimental Characterization of Complex Systems. STATISTICAL METHODS FOR TREATING SYSTEMS OF LARGE NUMBERS OF PARTICLES AT OR NEAR EQUILIBRIUM. Representation of Equilibrium Properties. The Kinetic Theory of Gases. Transport Properties of Cases. Statistical Treatment of Interacting Systems. THE KINETICS OF HOMOGENEOUS REACTIONS IN GASES. The Spontaneous Decomposition of Excited Molecules. Unimolecular Reactions. Bimolecular and Termolecular Reactions. Some Complex Gas Phase Reactions. The Kinetic Behavior of Nonstationary State Systems. REACTIONS IN CONDENSED PHASES. Physical Models for Solution Reactions. Further Kinetic Aspects of Solution Reactions. Heterogeneous Reactions. APPENDIX. AUTHOR INDEX. SUBJECT INDEX.

BERG—Physical and Chemical Methods of Separation

By EUGENE W. BERG, Louisiana State University.

380 *pp.*, 6 *x* 9, 138 *illus.* (1963)....$12.50*r*

The author's aim is to enable the advanced student to recognize the inherent limitations of approximately 18 separation methods and the type of system to which each method would be applicable. Emphasis is on the physical principles which govern the behavior of a given method and pinpoint the important system variables, with a minimum of mathematical detail. Experimental detail is avoided through the use of schematic diagrams of the needed equipment, with brief descriptions of the technique.

CONTENTS—Introduction. Fractional Distillation and Sublimation. Liquid-Liquid Extraction. Adsorption Chromatography. Gas Chromatography. Paper Chromatography. Electrochromatography (Zone Electrophoresis. The Ring-oven Technique. Zone Melting. Ion Exchange. Ion Exclusion. Dialysis. Electrodialysis and Ion-exchange Membranes. Precipitation. Coprecipitation, Adsorption, and Postprecipitation. Flotation. Biological Methods. Elimination of Undesired Reactions through Use of Sequestering (Masking) Agents.

DUFFEY—Physical Chemistry

By GEORGE H. DUFFEY, South Dakota State College.

544 *pp.*, 6 *x* 9, 157 *illus.* (1962).....$8.95*c*

Intended for students at the junior-senior level who have followed a modern approach in their elementary chemistry courses. It requires a first course in calculus and presents more advanced material than most introductory texts. Outstanding are the chapters on reaction kinetics and thermodynamics, and the large number of carefully worked out problems which will greatly benefit the average student in his understanding of the subject.

CONTENTS—Matter and Its Atomic Nature. Particles—Atomic and Subatomic. Waves and Quanta. Molecular Energy Levels. Electrons in Atoms. Valence Electrons in Molecules. Gases and Introductory Statistical Thermodynamics. First Law of Thermodynamics. Boltzmann Distribution Law. Second Law of Thermodynamics. Condensed Phases. Physical Equilibria. Thermodynamic Changes Accompanying Chemical Reaction. Development and Use of Activity Concepts. Electrochemistry. Typical Mechanisms and Rate Laws. Resolving Kinetic Data. Catalysis. Photochemistry. APPENDIXES. INDEX.

HAMMETT—Introduction to the Study of Physical Chemistry

By LOUIS P. HAMMETT, Emeritus, Columbia University.

427 *pp.*, 6 *x* 9, 87 *illus.* (1952).....$7.95*c*

Considers physical chemistry as a method of obtaining and organizing information about the phenomena of nature; namely, the method of using quantitative and mathematical techniques in the attack on the problems of chemistry. The book offers examples of all the more important methods employed by the physical chemist, and supplies problems to help the student develop his own ability to use these methods.

CONTENTS—Foreword. On the Properties of Gases. An Elementary Discussion of the Kinetic Molecular Theory and of Some Ideas about Intermolecular Forces. On Solutions, and Particularly on Dilute Solutions. The First Law of Thermodynamics. Thermochemistry. An Elementary Discussion of Quantum Principles and the Use of the Boltzmann Equation. The Ideal Law of Chemical Equilibrium. On the Temperature Coefficient of Chemical Equilibrium and Related Effects. The Rate of Chemical Reaction in Homogeneous Systems. A First Approximation to the Properties of the Galvanic Cell. An Introduction to the Thermodynamic Concept of Free Energy and Its Application to Chemical Problems. The Interpretation of Phase Diagrams. On Electrical Conduction in Solutions. On Chemical Reactions in Ionic Solutions. On the Effect of Pressure and of Temperature on Free Energy. A Brief Account of Some Effects Involving Surfaces. Appendix: A. Some Useful Mathematical Techniques. Appendix: B. The Relation of the Boltzmann Equation to Considerations of Probability.

HARRIS AND LOEB—Introduction to Wave Mechanics

By LOUIS HARRIS and ARTHUR L. LOEB, Massachusetts Institute of Technology.

296 *pp.*, 6 *x* 9, 62 *illus.* (1963).....$8.95*c*

This book presents, within the framework of a one-semester course, most of the principles of non-relativistic wave mechanics, together with examples illustrating the applications of these principles. Mathematical topics beyond partial differentiation, integration and the most elementary differential equations are presented in detail, and with sufficient generality to allow applications outside the immediate scope of the book. The material is so designed that a background of about two years of college mathematics and physics, including atomic physics, is sufficient for understanding.

CONTENTS—Preface. Introduction. Wave Theory. Wave Packets and the Uncertainty Principle. deBroglie's Hypotheses Applied to Electron Beams. The Postulates of Wave Mechanics. The Uncertainty Principle. A Physical Interpretation of the Wave and Distribution Functions. Trapped and Travelling Electrons. Electrons in Small Fields. Development of Operator Algebra for the Harmonic Oscillator. The Central Field. Spherical Harmonics and Selection Rules. Radial Dependence of Wave Functions in a Coulomb Field. The Hydrogen Molecule-Ion. Separation of Variables. Electron Spin and the Exclusion Principle. Perturbation Theory. The Helium Atom. Electronic Configurations of Atoms. Appendix I: Physical Constants; Conversion Factors. Appendix II: Reference Books. Index.

DANIELS—Mathematical Preparation for Physical Chemistry

By FARRINGTON DANIELS, University of Wisconsin.

305 *pp.*, 5½ *x* 8, *illus.* (1928)
McG-H Paperbacks Ed. $2.50*pa**

Mathematics is a deductive science while chemistry is essentially an inductive science. Since this book is directed toward chemists who find

it easier to reason from specific facts to general propositions, there will be found more of the inductive approach than is usual. Those portions of higher mathematics which are of special value to the natural scientist are stressed.

CONTENTS—Preface. Large and Small Numbers. Logarithms. The Slide Rule. Graphical Representation of Equations. Graphs of Equations of the Second Degree. Graphs of Logarithmic and Trigonometrical Functions. Differential Calculus. Differentiation. Graphs and Calculus. The Differential. Integral Calculus. The Significance of "e." Differentiation and Integration of Trigonometrical Functions. Integration. The Use of Integration Tables. Geometrical Application of Integral Calculus. Partial Differentiation. Differential Equations. Infinite Series. Probability. Graphical Methods in Physical Chemistry. APPENDIXES. Index.

** Available only through your local bookstore.*

DANIELS, WILLIAMS, BENDER, ALBERTY AND CORNWELL—Experimental Physical Chemistry

By FARRINGTON DANIELS, JOHN W. WILLIAMS, PAUL BENDER, ROBERT A. ALBERTY, and C. DANIEL CORNWELL, all at University of Wisconsin. Sixth Edition.

640 *pp.*, 6 *x* 9, 215 *illus.* (1962).....$7.95*c*

To illustrate the principles of physical chemistry, to train in careful experimentation, to develop familiarity with apparatus, to encourage ability in research—these are the purposes of the present edition of this classic work, as they have been since the publication of the first edition a third of a century ago. All the experiments previously given have been reviewed, and changes have been made, based on continuing class experience.

CONTENTS—LABORATORY EXPERIMENTS. Gases. Vapor Pressures of Pure Substances. Solutions. Homogeneous Equilibria. Heterogeneous Equilibria. Chemical Kinetics. Irreversible Processes in Solution. Electromotive Force. Dielectric and Optical Properties of Matter. Spectroscopy. Diffraction. Macromolecular Chemistry. Surface Chemistry. Photochemistry. Radioactive Isotopes and Tracers. General Experimental Techniques. APPARATUS AND METHODS. Treatment of Experimental Data. Opticochemical Measurements. Thermal Measurements. Physical Properties of Fluids. Electrical Measurements. Nuclear and Radiation Chemistry. Purification of Materials. Photochemistry. Spectroscopy. Electronics. APPENDIX. INDEX. INTERNATIONAL ATOMIC WEIGHTS, 1956–1957. TABLE OF LOGARITHMS.

DAVIDSON—Statistical Mechanics

By NORMAN DAVIDSON, California Institute of Technology. *Series in Adv. Chem.*

552 *pp.*, 6 *x* 9, 80 *illus.* (1962).....$14.50*c*

Seeking to cover elementary and intermediate level statistical mechanics, this book begins at the beginning, i.e., by a study of the statistical mechanics of ideal gases and other systems of noninteracting particles, and then develops the theory in a simple, understandable, and logical way. The applications of the theory for the calculation of the thermodynamic properties of gases are treated in great detail. The latter half of the book contains a clear, logical, and simple presentation of the theories of the canonical ensemble and of the grand ensemble, which are the theoretical bases for modern, advanced, equilibrium statistical mechanics.

CONTENTS—Introduction. Classical Mechanics. Quantum Mechanics. Thermodynamics. Mathematics. The Statistical Mechanics of a System of Independent Particles. Statistical Mechanics and Chemical Equilibrium. Distribution Laws. Partition Functions, and Thermodynamic Functions for Atoms and Diatomic Molecules. Nuclear Spin Statistics; Isotope Effects. Classical Statistical Mechanics; The Kinetic Theory of Gases. Polyatomic Molecules. Black-body Radiation. Systems of Dependent Particles. Fluctuations. Noise. Brownian Motion. Real Gases. Lattice Vibrations and the Thermodynamic Properties of Crystals: Order-Disorder Phenomena. A Digression on Electricity, Magnetism, and Units. Dielectric Phenomena. Magnetic Phenomena. Distribution Functions and the Theory of Dense Fluids. Solution of Electrolytes; The Debye-Huckel Theory. General References. APPENDIX 1. Physical Constants and Conversion Factors. 2. Thermodynamic Functions for the Harmonic Oscillator.

ELLIS AND MILLS—Laboratory Manual in Physical Chemistry

By RICHARD B. ELLIS, Southern Research Institute, and ALFRED P. MILLS, University of Miami.

94 *pp.*, 8½ *x* 11, 18 *illus.* (1953)....$3.95*c*

A well-written manual of experiments, designed to accompany any physical chemistry course in which standard equipment is used. The experiments are constructed with the student in mind who does not intend to take more advanced work.

CONTENTS—Preface. Treatment of Data. Molecular Weight by Vapor Density: Victor Myer's Method. Molecular Weight by Vapor Density: Dumas Method. Gas Densities and Molecular Weights: Graham's Law. Liquid Density. Refractive Index. Viscosity. Surface Tension. Optical Rotation: The Polarimeter. Vapor Pressure: Ramsay-Young Method. Distillation of Binary Liquids. Steam Distillation. Distribution. Solubility of Partially Miscible Liquids. Binary-solid Phase Diagram. Molecular-weight Determination: Freezing-Point-Lowering Method. Molecular-weight Determination: Boiling-Point-Elevation Method. Heat of Reaction. Conductance. Rate of Saponification of Ethyl Acetate: Conductance Method. Potentiometric Titrations. Adsorption. Chromatography and Ion Exchange. Colloids.

HAMMETT—Solutions of Electrolytes

By LOUIS P. HAMMETT, Emeritus, Columbia University.

238 *pp.*, 5½ *x* 8, *illus.* (1936).....$6.50*c*

Offers a complete presentation of the theories of the ionization of acids and bases and of the mechanism of hydrolysis. Other developments included are activity coefficients, the theories of inorganic colloidal solutions, and advances in the theory of reaction mechanisms.

CONTENTS—Principles; Introduction; The Solubility Product Principle; Weak Electrolytes; the Law of Chemical Equilibrium; The Ionization of Water; Acidity and Basicity; Hydrolysis; Complex Compounds; Oxidation-reduction Reactions; Oxidation Potentials; Experiments Introduction; The Course of Laboratory Instruction; Questions on the Experiments; The Method of Analysis; Special Notes on the Method of Analysis; Further Analytical Methods; Appendices: The Lecture Experiments; The Schedule of Laboratory Work; Reagents; Apparatus.

HILL—Statistical Mechanics

Principles and Selected Applications

By TERRELL L. HILL, University of Oregon. *Series in Adv. Chem.*

432 *pp.*, 6 *x* 9, 73 *illus.* (1956).....$12.50*r*

Written for graduate students and research workers in theoretical chemistry and physics, this book summarizes the *principles* of statistical mechanics at an intermediate level, and presents an organized and detailed account of certain important *applications* of statistical mechanics which have been worked out since about 1940. The applications are the most important part of the book; the principles are included primarily for completeness and to make the book self-contained. Much of the treatment is original or unconventional as compared to most books in the field; some of the material has not been published elsewhere. Many helpful appendices supplement the text.

CONTENTS—Foreword by John G. Kirkwood. Preface. Principles of Classical Statistical Mechanics. Principles of Quantum Statistical Mechanics. Statistical Mechanics and Thermodynamics. Fluctuations. Theory of Imperfect Gases and Condensation. Distribution Functions and the Theory of the Liquid State. Nearest Neighbor Lattice Statistics. Lattice Theories of the Liquid and Solid States. Appendixes. Index.

MANDELKERN—Crystallization of Polymers
By LEO MANDELKERN, Florida State Univ. *Series in Adv. Chem.*
In Press
Reviews and critically examines the state of knowledge of the phenomenon of crystallization of polymers. The treatment is both objective and definitive. All classes and types of macromolecules are considered, and the approach is through the basic disciplines of chemistry and physics. Emphasis is on fundamental scientific concepts; little or no attention is given to practical or technological application.
CONTENTS—Fusion of Homopolymers. Polymer-Diluent Systems. Fusion of Copolymers. Thermodynamic Quantities. Fusion of Cross-linked Polymers. Oriented Crystallization and Contractility. Crystallization Kinetics and Mechanisms. Morphology.

MARTIN—Introduction to Biophysical Chemistry
By R. BRUCE MARTIN, Univ. of Virginia.
In Press
Designed for use in a one-semester course in biophysical chemistry, or for supplementary use in biochemistry courses. The text begins with the application of fundamental principles to small molecules of biological significance. With that as a basis the book moves from an account of the methods for characterizing biopolymers to a study of their properties and interrelationships. Properties, functions, and interrelationships of the biologically important macromolecules, proteins, and nucleic acids are included, as is a thermodynamic presentation of biological reactions. The emphasis throughout is on developing an appreciation of the topics, rather than a detailed analysis.
CONTENTS—Introduction. Principles of Equilibria. Solubility. Acid-base Equilibria. Titrations of Proteins. Molecular Weights. Osmotic Pressure. Light Scattering. Diffusion. Ultracentrifugation. Viscosity. Electrophoresis. X-ray Diffraction. Fibrous Proteins. Globular Proteins. Protein Conformation. Nucleic Acids. Deoxyribonucleic Acid. Polyribonucleotides. Nucleoproteins. Enzymes, Metal Ions in Biological Systems. Appendix. Index.

PAULING AND WILSON—Introduction to Quantum Mechanics
With Applications to Chemistry
By LINUS PAULING, California Institute of Technology, and E. BRIGHT WILSON, JR., Harvard University.
468 *pp.*, 6 *x* 9, *illus.* (1935).....$8.95*c*
Here is a textbook of practical quantum mechanics which seeks to give the student a thorough discussion of the wave equation and its application to the solution of physical and chemical problems. The treatment of systems for which a direct comparison of results with experiment can be made is especially emphasized, and the discussion of the structure of simple molecules is particularly thorough.
CONTENTS—Survey of Classical Mechanics; The Old Quantum Theory; The Schrödinger Wave Equation with the Harmonic Oscillator as an Example; The Wave Equation for a System of Point Particles in Three Dimensions; The Hydrogen Atom; Perturbation Theory; The Variation Method and Other Approximate Methods; The Spinning Electron and the Pauli Exclusion Principle, with a Discussion of the Helium Atom; Many-electron Atoms; The Rotation and Vibration of Molecules; Perturbation Theory Involving the Time, the Emission and Absorption of Radiation, and the Resonance Phenomenon; The Structure of Simple Molecules; The Structure of Complex Molecules; Miscellaneous Applications of Quantum Mechanics; General Theory of Quantum Mechanics.

POPLE, SCHNEIDER, AND BERNSTEIN—High-resolution Nuclear Magnetic Resonance
By J. A. POPLE, National Physical Laboratory, Teddington, England; and W. G. SCHNEIDER, and H. J. BERNSTEIN, National Research Council, Ottawa, Canada. *Series in Adv. Chem.*
501 *pp.*, 6 *x* 9, 199 *illus.* (1959)....$14.50*r*
The authors provide a timely and comprehensive treatment of the theoretical principles and experimental applications of high-resolution nuclear magnetic resonance. Included are widely varied applications in molecular structure determinations, isomerism, conformational analysis, tautomerism, hydrogen bonding and other intermolecular effects, chemical equilibria, reaction rates, and chemical analysis. Basic data required for many of these applications are given in tables and diagrams. Methods of analysis of NMR spectra are given in detail together with illustrative examples.
CONTENTS—PRINCIPLES. Introduction. Properties of Molecules in a Magnetic Field. Theory of the Nuclear Magnetic Resonance Method. Experimental Methods. General Features of Nuclear Magnetic Resonance Spectra. Theory of Chemical Shifts. Theory of Nuclear Spin-Spin Interactions. Spin-lattice Relaxation. APPLICATIONS. Proton Magnetic Resonance Spectra of Other Nuclei. Hindered Internal Rotation. Investigation of Molecular Conformation by Proton Magnetic Resonance. Hydrogen Bonding. Solvent Effects. Keto-Enol Tautomerism. Aqueous Electrolytes. Quantitative Analysis. General Reviews. Bibliography. APPENDIX A. Table of Nuclear Properties. B. Transitions Due to Random Fields. C. Volume Diamagnetic Susceptibilities of Some Chemical Compounds. NAME INDEX. SUBJECT INDEX.

SHOEMAKER AND GARLAND—Experiments in Physical Chemistry
By DAVID P. SHOEMAKER and CARL W. GARLAND, Massachusetts Institute of Technology.
480 *pp.*, 6⅝ *x* 9¾, 147 *illus.* (1962)..$8.95*c*
Intended for a laboratory course in physical chemistry at the junior or senior level, this book contains 44 selected experiments, some of which are traditional and some modern; a number of them appear for the first time in these pages. The book presupposes a concurrent or previous lecture course in physical chemistry, taught from a modern point of view but offering a good basic coverage of the traditional subjects. Besides the experiments, the book presents much supplementary material concerning modern apparatus and techniques in physical chemistry. More than 125 figures illustrate apparatus and procedures.
CONTENTS—INTRODUCTION. Preparation for an Experiment. Apparatus. Recording of Experimental Data. Literature Work. Reports. Special Projects. TREATMENT OF EXPERIMENTAL DATA. Errors in Observational Data. Calculations. Propagation of Errors. Fundamental Limitations on Instrumental Precision. GASES. Gas Thermometry. Vapor Density and Molecular Weight. Joule-Thomson Effect. Heat Capacity Ratios for Gases. TRANSPORT PROPERTIES OF GASES. Kinetic Theory of Transport Phenomena. Viscosity of Gases. Thermal Conductivity of Gases. Diffusion of Gases. Low-pressure Diffusion of Gases. THERMOCHEMISTRY. Principles of Calorimetry. Heats of Combustion. Heats of Ionic Reaction. Heats of Solution. SOLUTIONS. Partial Molal Volume. Cryoscopic Determination of Molecular Weight. Freezing Point Depression of Strong and Weak Electrolytes. Solubility and Ionic Strength. Diffusion in Solution. EQUILIBRIA. Vapor Pressure of a Pure Liquid. Binary Liquid-Vapor Phase Diagram. Binary Solid-Liquid Phase Diagram. Chemical Equilibrium in Solution. ELECTROCHEMISTRY. Transference of Ions: Moving Boundary Method. Conductance of Solutions. Temperature Dependence of EMF. Activity Coefficients from Cell Measurements. Electrochemical Cells with Liquid Junctions. CHEMICAL KINETICS. Method of Initial Rates: Iodine Clock. Kinetics of a Hydrolysis Reaction. Gas Phase Kinetics. SURFACE PHENOMENA. Surface Tension of Solutions. Adsorption from Solution. Physical Adsorption of Gases. MACROMOLECULES. Osmotic Pressure. Intrinsic Viscosity: Chain Linkage in Polyvinyl Alcohol. ELECTRIC AND MAGNETIC PROPERTIES. Dipole Moment of Polar Molecules in Solution. Dipole Moment of Polar Molecules in the Gas Phase. Magnetic Susceptibility. SPECTRA AND MOLECULAR STRUCTURE. Absorption Spectrum of a Conjugated Dye. Infrared Spectroscopy: Vibrational

Spectrum of SO_2. Rotation-Vibration Spectrum of HCl. Spectrum of the Hydrogen Atom. Band Spectrum of Nitrogen. SOLIDS. Determination of Crystal Structure by X-ray Diffraction. Lattice Energy of Solid Argon. Low Temperature Heat Capacity of Solids. ELECTRICAL MEASUREMENTS. Galvanometers. Potentiometer Circuits. Wheatstone Bridge Circuits. Standard Resistors and Potential Dividers. Capacitance Measurements. TEMPERATURE. Temperature Scales. Thermometers. Temperature Control. VACUUM TECHNIQUES. Theoretical Background. Pumping Speed. Pumps. Vacuum Gauges. Design of Vacuum Lines. Leak Detection. Sources of Vacuum Equipment. INSTRUMENTS. Balances. Barometer. Cathetometer. Oscilloscope. pH Meter. Polarimeter. Radiation Detectors. Refractometer. Timing Devices. Westphal Balance. MISCELLANEOUS PROCEDURES. Appendixes: A. Glossary of Symbols. B. Physical Constants and Conversion Factors. C. Barometer Corrections. D. Concentration Units for Solutions. INDEX.

SMYTH—Dielectric Behavior and Structure

By CHARLES P. SMYTH, Princeton University.

441 *pp.*, 6 *x* 9, *illus.* (1955).....$11.00*c*

A study of relations between dielectric behavior and structure of matter from the physical chemist's viewpoint. Uses measurements of dielectric constant and loss and quantities calculated from them as means of investigating the structure of matter and explaining dielectric behavior in terms of structure.

CONTENTS—Static Dielectric Constant and Dipole Moment. Dielectric Constant and Loss. Dielectric Constants of Gases and Liquids. Dielectric Loss and Structure in Liquids. The Dielectric Constants and Losses of Solids. Measurement of Dielectric Constant and Loss. Calculation of Dipole Moment from Experimental Data. The Relation of Dipole Moment to Molecular Structure. Dipole Moments and Structures of Aliphatic and Alicyclic Molecules. Dipole Moments and Structures of Aromatic Molecules. Dipole Moment and Intramolecular Rotation. Dipole Moments and Structures of Inorganic and Organometallic Molecules. Dielectric Behavior and Structure of Amino Acids, Peptides, and Proteins. Electronic and Atomic Polarization.

WETMORE AND LeROY—Principles of Phase Equilibria

By F. E. W. WETMORE and D. J. LEROY, University of Toronto.

200 *pp.*, 6 *x* 9, *illus.* (1951).....$6.95*c*

The presentation is rigorous, yet without recourse to formal thermodynamics. The exemplary systems of one, two, three, and four components are chosen in a wide variety of types and arranged in such a way as to demonstrate both the common features and the general method of approach. In keeping with the practical approach of the text, particular attention is paid to quantitative treatment, to courses in crystallization and distillation, and to laboratory phenomena associated with phase equilibria.

CONTENTS—Preface. Chemical Equilibrium. One-component Systems. Two-component Systems. Types of Equilibria Involving Only One Phase of Variable Composition. Types of Equilibria Involving More than One Phase of Variable Composition. Three-component Systems. Three-component Systems at Fixed Temperature and Pressure. Solid Diagrams and Their Plane Projections. Four-component Systems. Appendix I: The Thermodynamic Derivation of the Phase Rule. Appendix II: Free-energy Composition Curves for Two-component Systems.

WILSON, DECIUS, AND CROSS—Molecular Vibrations

The Theory of Infrared and Raman Vibrational Spectra

By E. BRIGHT WILSON, JR., Harvard University, JOHN C. DECIUS, Oregon State College, and PAUL C. CROSS, University of Washington.

370 *pp.*, 6 *x* 9, 55 *illus.* (1955).....$10.50*c*

Covers the theory of vibrations of polyatomic molecules and applications of this theory to interpretation of infrared and Raman spectra. Provides an introduction to the theory of the subject which is sufficiently detailed and complete to provide a student with a basis for carrying on research in this field. Particular emphasis is laid on providing a sound foundation for understanding and utilizing the symmetry of molecules to simplify the calculations.

CONTENTS—The Vibration of Molecules. Wave Mechanics and the Vibration of Molecules. More Advanced Methods of Studying Vibrations. Symmetry Considerations. Applications of Group Theory to the Analysis of Molecular Vibrations. Vibrational Selection Rules and Intensities. Potential Functions. Methods of Solving the Secular Determinant. A Sample Vibrational Analysis: The Benzene Molecule. The Separation of Rotation and Vibration.

Theoretical Chemistry

KASHA AND OPPENHEIMER—Davydov: Theory of Molecular Excitons

Translated from the first Russian edition by MICHAEL KASHA, Florida State University; and MAX OPPENHEIMER, JR., State University of Iowa. *Series in Adv. Chem.*

184 *pp.*, 6 *x* 9, 26 *illus.* (1962).....$7.95*r*

This is a translation of a rare Russian book originally published in 1951 under the title "Theory of Light Absorption of Molecular Crystals," Works of the Institute of Physics, Academy of Science, Ukrainian SSR, and written by A. S. Davydov of the Academy of Sciences. A comprehensive extension of the exciton concept originally proposed by J. Frenkel, covering the resonance interaction of excited vibrational and electronic states of weakly coupled composite systems, the book gives a full quantum mechanical and group theoretical treatment of interest to works in: solid state physics, vibrational spectroscopy, electronic spectroscopy, quantum chemistry, and radiation chemistry.

CONTENTS—Introduction. Translational and Rotational Vibrations of Molecules in a Molecular Lattice. Influence of the Interaction Forces Between Molecules of a Molecular Lattice on the Intramolecular Vibrations. Quantum Theory of Absorption and Combinational Scattering (Raman) Spectra in Molecular Crystals (Zeroth Approximation). General Equations Determining the Energy States of Molecular Crystals. Free Excitons in a Molecular Lattice. Excitation of Free Excitons Simultaneously with the Excitation of Lattice Vibrations. "Localized" Excitons in a Molecular Lattice. Transformation of Absorbed Energy into Heat and Radiation. Comparison of Theory with Experiment. Application of Exciton Concepts to the Calculation of the Energy States of Several Polyatomic Molecules. Conclusion. References. Appendices.

Chemical Thermodynamics

FAST—Entropy

By J. D. FAST, Technical University of Eindoven, Holland.

313 *pp.*, 6 *x* 9 (1963).....$10.75*cf**

This book develops and elucidates the concept of entropy and its applications in science and technology in a manner clear enough to be readily understood by physicists, chemists, and students. It is essentially a book on thermodynamics, with emphasis on the statistical approach to the subject. Using only elementary statistical ideas, it treats thermodynamically a wide variety of problems of a physico-chemical or metallurgical nature. Examples include: calculation of chemical equilibria, internal friction, ordering and precipitation in metals, the structure of the glass, the specific heats of solids and gases, fuel cells, heat pumps, the properties of polymers, ferromagnetism, and the attainment of very low temperatures.

CONTENTS—The Concept of Entropy in Classical Thermodynamics. The Statistical Significance of the Entropy Concept. Applications of the Concept of Entropy. Quantum Mechanics and Statistics. The Entropy of Monatomic Gases. The Entropy of Diatomic Gases. Index.

** Also available in South America, Africa, Poland, Yugoslavia, East Germany, Bulgaria, Czechoslovakia, Rumania, Hungary, U.S.S.R., Indonesia, Israel, Phillipines, Thailand, Turkey, and Vietnam.*

FITTS—Nonequilibrium Thermodynamics

By DONALD D. FITTS, University of Pennsylvania. *Series in Adv. Chem.*

192 *pp.*, 6 *x* 9 (1962).....$7.95*c*

Analytical in approach, this book seeks to develop macroscopic theory for transport processes in fluids: gases, gas mixtures, pure liquids, and solutions. The text is unique in that it extends equilibrium thermodynamics (which it does not discuss) to nonequilibrium systems using certain clearly stated postulates justified by the agreement between theory and experiment. The second half of the book is concerned with applications of the theory developed in the first half. In general, actual experimental results are not discussed, except in the chapter on isothermal diffusion, where they are analyzed in great detail in terms of the theory.

CONTENTS—List of Symbols. THE SYSTEM. Introduction. Field Quantities. Mass Flow. Chemical Reactions. THE HYDRODYNAMIC EQUATIONS. General Conservation Equation. Equation of Continuity of Matter. Stress Tensor. Equation of Motion. Energy Transport Equation. Summary. Problems. References. Suggestions for Further Reading. THE ASSUMPTION OF LOCAL EQUILIBRIUM. Postulate I. Validity of Postulate I. Partial Specific Quantities. Diffusion Current Density (*Note:* Check Symbol on Original). Energy Transport Equation. Second Law Heat Flux. Entropy Equation. Fluxes and Forces. References. Suggestions for Further Reading. THE PHENOMENOLOGICAL RELATIONS. Postulate II. Curie's Theorem. Postulate III. Newtonian Stress Tensor. Navier-Stokes Equation. Mechanical Equilibrium Diffusion and Heat Flow. Other Fluxes and Forces for Diffusion and Heat Flow. Problems. References. Suggestions for Further Reading. THE TRANSPORT EQUATIONS. Two Thermodynamic Relations for the Entropy. Equations of Transport. THE TRANSPORT OF HEAT. Pure Heat Conduction. Rate of Cooling in an External Magnetic Field. Inversion of the Linear Relations. Heats of Transport. Heats of Transport with Respect to Solvent. Problems. References. Suggestions for Further Reading. ELECTROCHEMICAL SYSTEMS. Specific Charge of an Ionic Species. Linear Relations. Electric Current Density. Liquid Junction Potential. References. Suggestions for Further Reading. DIFFUSION IN ISOTHERMAL SYSTEMS. Diffusion Relative to the Local Center of Mass. Diffusion Relative to the Solvent. Diffusion Realtive to the Local Center of Volume. Fick's Second Law. Some Thermodynamics Relationships. Diffusion in Binary Systems. Diffusion in Ternary Systems. The System NaCl-KCl-Water. Problems. References. Suggestions for Further Reading. THERMAL DIFFUSION. Soret Effect. Thermal Diffusion in Terms of Q^*. Composition in Terms of Molalities. Composition in Terms of Weight Fractions. Experimental Soret Coefficients for Binary Systems. Soret Coefficient for Electrolytic Solutions in an External Field. Thermal Conductivity. Dufour Effect. Problems. References. Suggestions for Further Reading. SEDIMENTATION AND CENTRIFUGATION. Gravitational Fields. Vanishing Volume Flow. Entropy Production. Sedimentation Potential and Electrophoresis. Potential of a Galvanic Cell. Equilibrium Sedimentation. Problems. References. Suggestions for Further Reading. CHEMICAL REACTIONS. Ideal Gas Reactions. Monomolecular Triangular Reaction. Method of Kirkwood and Crawford. References. Suggestions for Further Reading. APPENDIX A. DYADICS. Tensor Quantities. Definition of a Dyadic. Multiplication by a Dyadic. An Example. Dyadics with Differential Operators. Unit Dyadic. Trace of a Dyadic. Symmetric and Antisymmetric Dyadics. Problems. B. THE ONSAGER THEORY. References. C. RELAXATION IN VISCOELASTIC MEDIA. Stress-Strain Relation. Isotropic Medium. Newtonian Fluid. D. INERTIAL FORCES AND VISCOUS STRESSES. Inertial and Viscous Terms. Linear Relations for Diffusion Relative to Solvent. Neglect of Inertial and Viscous Terms. Linear Relations for a System in a Rapidly Varying External Electric Field. References. INDEX.

KIRKWOOD AND OPPENHEIM—Chemical Thermodynamics

By J. G. KIRKWOOD, deceased, and IRWIN OPPENHEIM, Massachusetts Institute of Technology.

261 *pp.*, 6 *x* 9, 45 *illus.* (1961).....$8.95*c*

Contains new formulation of the Second Law and an important statement of relationship between the Second Law and the Caratheodory Principle. The book presents rigorous treatments of gas mixtures and heterogeneous equilibrium and also of electrochemical systems and dielectrics. This is a senior-graduate text with Physical Chemistry as a prerequisite.

CONTENTS—Nomenclature and Temperature. General Thermodynamic Properties. The First Law of Thermodynamics. The Second Law of Thermodynamics. The Third Law of Thermodynamics. General Conditions for Equilibrium. Thermodynamics of Gases. Chemical Equilibrium in Homogeneous Systems. Heterogeneous Equilibrium. Surface Effects. Chemical Potentials of Nonelectrolyte Solutions. Chemical Potentials of Electrolyte Solutions. Thermodynamic Theory of Electrochemical Systems. Dielectrics or Insulators. Gravitational and Centrifugal Fields. Introductory Mathematics. Index.

PITZER AND BREWER—Thermodynamics

By KENNETH S. PITZER, Rice Institute and LEO BREWER, University of California, Berkeley. (Revision of Lewis and Randall—*Thermodynamics, First Edition*) *Series in Adv. Chem.* Second Edition.

723 *pp.*, 6 *x* 9, 117 *illus.* (1961)....$12.50*c*

The text leads the beginner through the intricacies of thermodynamic theory and guides the experienced investigator to the extreme limits of existing knowledge in this field. In this revised edition, those portions of the original which are still timely have been combined with new discussions of the major advancements in thermodynamics.

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Chemical Kinetics

GLASSTONE, LAIDLER, AND EYRING—The Theory of Rate Processes

The Kinetics of Chemical Reactions, Viscosity, Diffusion, and Electrochemical Phenomena

By SAMUEL GLASSTONE, Boston College, KEITH J. LAIDLER, University of Ottawa, and HENRY EYRING, University of Utah.

611 *pp.*, 6 *x* 9, *illus.* (1941).....$13.50*c*

Describes the development and application of a general theory of the kinetics of physical and chemical processes, usually known as the "theory of absolute reaction rates." The authors explain the fundamental bases, and consider homogeneous and heterogeneous gas reactions, reactions in solution, viscosity, diffusion, and electrochemical phenomena, in terms of the theory.

CONTENTS—Introduction; Quantum Mechanics; Potential-energy Surfaces; Statistical Treatment of Reaction Rates; Homogeneous Gas Reactions; Reactions Involving Excited Electronic States; Heterogeneous Processes; Reactions in Solution; Viscosity and Diffusion; Electrochemical Processes.

LAIDLER—Chemical Kinetics

By KEITH J. LAIDLER, University of Ottawa.

408 *pp.*, 6 *x* 9, 44 *illus.* (1950).....$9.50*c*

A general text for the advanced course offered to chemistry majors. The object of the book is to present the important facts and theories relating to the rates with which chemical reactions occur. All important classes of chemical reactions are discussed, and in each case there is a treatment both of experiment data and of application of theory to them.

CONTENTS—Preface. The Measurement of Reaction Rates. Experimental Methods. The Mechanisms of Elementary Processes. Elementary Gas-phase Reactions. Reactions in Solution. Reactions on Surfaces and in the Solid State. Complex Reactions. Some Complex Organic Reactions. Catalysis. Oxidation. Polymerization. Potential-energy Surfaces. Name Index. Subject Index.

Industrial Chemistry

HATCH—Isopropyl Alcohol

By LEWIS F. HATCH, Technical Consultant, Enjay Company, Inc.

192 *pp.*, 6 *x* 9 (1961).....$7.75*i*

Covers the manufacture, use, and properties of isopropyl alcohol in a variety of industries. Topics include basic reactions, patented production methods, hydration, fermentation, distillation, extraction, entraining agents, chemical properties, synthesis applications, solvent applications, extraction applications, pharmacology and related uses. Provides material on physical properties of a variety of isopropyl alcohol solutions and water mixtures. Includes data on vapor pressure, solubility, mixing problems, and over 75 other miscellaneous physical properties.

CONTENTS—Preparation. Chemical Properties and Synthesis Applications. Solvent Applications. Extraction Applications. Miscellaneous Applications. Pharmacology and Related Uses. Analysis. Physical Properties.

PFIZER & CO., INC.—The Pfizer Handbook of Microbial Metabolites

Compiled by MAX W. MILLER, Ph.D., Pfizer Medical Research Laboratories, Chas. Pfizer & Co., Inc.

772 *pp.*, 6 *x* 9, *illus.* (1961).....$15.00*m*

For the first time, through the efforts of Chas. Pfizer & Co., Inc., a book has been published which compiles in one single volume the existing information and theories, mostly of recent origin, on biosynthetic routes to microbial metabolites.

A most important part of this work is the listing of a large number of Streptomyces metabolites. The book contains an extensive bibliography on macromolecules and microbial cell chemistry. Three separate indexes allow the reader to locate a compound by chemical name, empirical formula, or by producing microorganism.

The *Pfizer Handbook* not only lists the source, physical, and chemical properties of metabolic products isolated from bacteria, molds, fungi, and lichens, but in addition contains chapters outlining the biogenesis of various structural types elaborated mainly by microorganisms.

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WOODMAN—Food Analysis

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By A. G. WOODMAN, formerly Massachusetts Institute of Technology. Fourth Edition.

607 *pp.*, 5½ *x* 8, 32 *illus.*, 94 *tables* (1941) $12.50*c*

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Chemistry Reference

GRANT—Hackh's Chemical Dictionary

Revised and Edited by JULIUS GRANT. Fourth Edition.

In Press

The fourth edition of this well-known dictionary defines nearly 80,000 terms in the chemical and related fields. Throughout Dr. Grant adheres to international standards, where they exist and are accepted; in other cases, customary usage in America and Great Britain is followed. Includes all terms given in the U. S. and British Pharmacoposia, as well as new products, like insecticides, detergents, plastics, man-made fibers, and agricultural chemicals. All the more important new-product compounds and trade names are included. Definitions of radicals follow the rulings of the International Union of Pure and Applied Chemistry.

MELLON—Chemical Publications

Their Nature and Use

By M. G. MELLON, Purdue University. Third Edition.

327 *pp.*, 6 *x* 9 (1958).....$7.95*c*

Attempts to take account of the many changes in chemical literature which have taken place during the last two decades, and to introduce students to the nature and extent of all this literature of chemistry and chemical technology and to give them personal experience in its use. The general outline of earlier editions, with some minor rearrangements, has been followed, and the nature of periodicals, patents, treatises, and most other kinds of publications, remains unchanged.

CONTENTS—Preface. Introduction and General Outline. Primary Sources—Periodicals. Primary Sources—Institutional Publications. Primary Sources—Literature on Patents. Primary Sources—Miscellaneous Contributions. Secondary Sources—Periodicals and Serials. Secondary Sources—Bibliographies. Secondary Sources—Reference Works. Secondary Sources—Monographs and Textbooks. Tertiary Sources—Guides and Directories. Making Searches in the Chemical Literature. Library Problems. Index.

History of Chemistry

MOORE—A History of Chemistry

By F. J. MOORE. Revised by WILLIAM T. HALL. *International Chemical Series.* Third Edition.

447 *pp.*, 5½ *x* 8, *illus.* (1939).....$7.95*c*

A readable treatment of the historical development of the important theories of chemistry covering the origin of the fundamental ideas of the science, the critical periods in their development, and the personalities of the great men whose efforts have contributed to that development.

CONTENTS—Prefaces. Chemistry among the Ancients. Chemistry in the Middle Ages. Alchemy; Chemistry in the Renaissance; Boyle and His Contemporaries. The Phlogiston Theory; The Later Phlogistonists. The Discovery of Oxygen; Lavoisier; Law of Definite Proportions; Dalton and the Atomic Theory; The Early History of Galvanic Electricity; Humphrey Davy; Berzelius, the Organizer of the Science; The Beginning of Organic Chemistry; The Reaction against Berzelius; Gerhardt and the Chemical Reformation; Williamson; The Transition from the Type Theory to the Valence Theory; The Periodic Law; Bunsen, Berthelot, Pasteur, and Contemporaries; Organic Chemistry since 1860; Inorganic Chemistry since 1860; Index.

Biochemistry

HAWK, OSER, AND SUMMERSON—Practical Physiological Chemistry

By PHILIP B. HAWK, Ph.D., and BERNARD L. OSER, Ph.D., Food Research Laboratories, Inc., and WILLIAM H. SUMMERSON, Ph.D., Army Chemical Center, Md. Thirteenth Edition.

1439 *pp.*, 6 *x* 9, 307 *illus. plus color plates* (1954) $15.00*m*

The 13th edition contains for the first time the contributions of more than 30 outstanding specialists, whose timely material is incorporated throughout. In addition to its value as a textbook, it is one of the most important references in the field.

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KOSOWER—Molecular Biochemistry

By EDWARD M. KOSOWER, State University of New York, Long Island Center, Stony Brook, N. Y. *Series in Adv. Chem.*

320 *pp.*, 6 *x* 9, 257 *illus.* (1962)....$12.50*c*

The purpose of this unique work is to analyze the molecular transformations of biochemistry in terms of detailed chemical mechanisms derived from physical-organic studies. The book covers most of the important simple reactions of biochemisttry, and some of the important classes of compounds and coenzymes (e.g., decarboxylation . . . pyridine nucleatides, phosphates). In addition, extensive discussions on oxidation-reduction and the "active site" are included.

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WHITE, HANDLER, AND SMITH—Principles of Biochemistry, 3rd Ed.

By ABRAHAM WHITE, Ph.D., Albert Einstein College of Medicine, Yeshiva University, PHILIP HANDLER, Ph.D., Duke University School of Medicine, EMIL SMITH, Ph.D., University of Calif. School of Medicine.

In Press

The revised edition of this most successful basic modern textbook in biochemistry continues to stress the fundamental principles and concepts of the subject, considering where possible the mechanisms of and factor influencing biological reactions. Revisions in text material have been made in line with the rapid expansion of knowledge in the subject and with the suggestions of users of the work. Chapters on the chemistry of carbohydrates and lipids have been revised and updated. Recent advances in lipid chemistry are included. A new chapter on Protein Chemistry deals in more detail with the structure of protein. This edition takes note of the tremendous advances in biochemical genetics, devoting three major chapters to this topic. Included is material on the relationship of nucleic acids to protein biosynthesis. The coding problem in its significance to protein structure, as well as genetic control of variations in protein structure, are dealt with in some detail and are then related to genetic and hereditary disorders in man. Section on the biochemistry of specialized tissues, the biochemistry of the endocrine glands, and nutrition has been undated.

LAIDLER—Introduction to the Chemistry of Enzymes

By KEITH J. LAIDLER, University of Ottawa.

208 *pp.*, 6 *x* 9, 85 *illus.* (1945).....$7.50*c*

A straightforward treatment for biochemists, biologists, and physical chemists. Presents a general introductory account of the chemical properties of enzymes. Enzymes are treated from a mechanistic point of view and the author consistently attempts to explain their modes of action.

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Edited by DWIGHT E. GRAY; Library of Congress, Washington, D.C., prepared by a Staff of Specialists. Second Edition.

2118 *pp.*, 6 *x* 9, 587 *illus.* (1963).....$29.75*hbL*

Planned as a working tool for those using physical methods in research, this work offers an extraordinary volume of physical data expressed in tabular form. All traditional areas of physics are covered, and new material added includes solid-state physics, the energy gaps of inorganic compounds, tensor properties of crystals, the use of analog and digital computers, low-temperature thermoelectric data, diamagnetic and paramagnetic properties, and the propagation of sound.

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HANDBOOK OF PHYSICS

Prepared by a staff of specialists. Edited by E. U. CONDON, University of Colorado, and HUGH ODISHAW, United States National Committee for the International Geophysical Year, National Academy of Sciences.

1504 *pp.*, 7⅛ *x* 9⅞, 784 *illus.* (1958).....$27.50*hbL*

Two distinguished editors, working with scores of today's most outstanding scientists, present in this handbook a comprehensive and authoritative guide to basic physics. The book concentrates on the important principles, ideas, concepts, and mathematical formulations of all branches of classical and modern physics. Here may be found concise answers to hundreds of questions in the field. In addition, the book serves as a check for better understanding of important ideas, problems, mathematical methods and equations, and offers a means of reviewing or gaining an understanding of unfamiliar areas.

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Edited by LOUISE B. YOUNG, formerly Radiation Lab., MIT.

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BEISER—The World of Physics

By ARTHUR BEISER, Columbia University.

286 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960)

Cloth Edition $4.50*c*

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KIP—Fundamentals of Electricity and Magnetism

By ARTHUR F. KIP, University of California, Berkeley.

448 *pp.*, 6 *x* 9 (1962).....$8.50*c*

A text for the first course in electricity and magnetism at the sophomore level, in which the author relates the basic laws and concepts to experimental results. On the theoretical side, the author has taken pains to display the remarkable economy of description of the basic phenomena made possible by Maxwell's equation. Practical examples of the operation of the laws are discussed throughout the book, but only to the extent that they help to clarify basic principles. Illustrative problems and problems for students are included.

CONTENTS—Electric Charge, Coulomb's Law of Electrostatic Forces. The Electric Field. The Electric Potential. Capacitance. Dielectrics. The Magnetic Field. Current, Resistance, and Electric Circuits. Induced Electromotive Force. Inductance. Magnetism in Matter. Alternating-current Circuits. Electronics. Maxwell's Equations and Electromagnetic Waves. Conduction of Electricity in Gases and Magnetohydrodynamics. Electric and Magnetic Quantum Effects. Units of Measurement. Appendixes. Poisson's and Laplace's Equations. Conducting Sphere in a Uniform Field. Complex Numbers. Primary and Secondary Gas Ion Multiplication.

KRAUSKOPF—Fundamentals of Physical Science

By KONRAD B. KRAUSKOPF, Stanford University. Fourth Edition.

653 *pp.*, 6¾ *x* 9¼, 406 *illus.* (1959)..$8.50*c*

Presents physical science as a unified field of knowledge, emphasizing the interrelationships of the separate sciences rather than the artificial divisions between them. Material is taken from astronomy, physics, chemistry and geology, but no attempt is made to provide superficial complete coverage. Topics are selected for emphasis with two aims in mind: to give a balanced presentation of the more important ideas in each science, and to provide illustrations of the scientific method at work.

CONTENTS—THE SOLAR SYSTEM. The Ptolemaic and Copernican Systems. The Sun and Its Family. Force and Motion. The Language of Mathematics. Forces in Combination. The Law of Gravitation. Origin of the Solar System. MATTER AND ENERGY. Energy. Solids, Liquids, and Gases. The Kinetic Theory. Wave Motion and Sound. Chemical Change. Weight Relations in Chemical Reactions. The Atomic Theory. The Language of Chemistry. The Periodic Law. THE STRUCTURE OF MATTER. Electricity and Magnetism. The Electron. Electric Currents. Light Waves. X Rays and Radioactivity. The Atomic Nucleus. Radiation. Subatomic Chemistry. FUNDAMENTAL PROCESSES. Ionic Reactions. Acids, Bases, and Salts. Chemical Energy. Reaction Rates and Equilibrium. Oxidation and Reduction. Carbon Compounds. Silicon Compounds. THE BIOGRAPHY OF THE EARTH. Earth Materials. Weather and Climate. Rocks and Minerals. Erosion and Sedimentation. Vulcanism and Diastrophism. The Law of Uniform

Change. Interpreting the Rock Record. Earth History. STARS AND GALAXIES. The Sun. The Stars. The Nebulae. Frontiers of Physical Science. Appendix. Index.

KRAUSKOPF AND BEISER—The Physical Universe

By KONRAD KRAUSKOPF, Stanford University, and ARTHUR BEISER, Columbia University. 536 *pp.*, 6⅜ *x* 9¼, *illus.* (1960)..$10.50*t*
Study Guide (Beiser).....$2.50*c*

Based upon Professor Krauskopf's respected and highly successful *Fundamentals of Physical Science*, this text for abbreviated courses in physical science gives a simple, clear, and concise presentation of important topics in physics, chemistry, geology, and astronomy. *The Physical Universe* is important because it deals with its subject in an authoritative, up-to-date fashion, while never losing sight of the requirements of the nonscience student.

CONTENTS—The Sun and Its Family. Force and Motion. Gravitation. Work and Energy. Solids, Liquids, and Gases. Chemical Reactions. The Periodic Table. Electricity. Currents and Magnetic Fields. Light. The Nucleus. Atomic Structure. Subatomic Chemistry. Fundamentals of Chemistry. Organic Chemistry. Rocks and Minerals. The Earth's Crust. Weather and Climate. Within the Earth. The History of the Earth. The Sun. The Stars. Nebulae. The Universe. INDEX.

MAURER AND KRAUSKOPF—Experiments and Exercises in Physical Science

By ROBERT MAURER, Chico State College; and KONRAD B. KRAUSKOPF, Stanford University.

227 *pp.*, 7 *x* 10, *illus.* (1959).....$2.95*c*

This laboratory manual designed to accompany Krauskopf's *Fundamentals of Physical Science* contains approximately 40 exercises and experiments in astronomy, physics, chemistry, geology, and meteorology. It is also admirably suited for use wherever a laboratory is joined to or can be created for a general physical science course. The manual introduces the student to some of the materials of science—stars, clouds, beakers of water, atoms, etc. It also stimulates him to think about these materials, and to try to see some of the underlying principles that relate the stars to the atoms. The book provides assignments in varying degrees of difficulty, and in all fields of physical science usually included in the general course.

MALLINSON AND MALLINSON—General Physical Science

By GEORGE G. MALLINSON and JACQUELINE B. MALLINSON, Western Michigan University. 628 *pp.*, 6⅜ *x* 9¼, 1000 *illus.* (1961).$5.96*s*
Student's Activity—Laboratory Manual
.....$1.88*s*
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Correlated Text-Film Filmstrips Series—six filmstrips.....set $45.00

This high school textbook deals with principles in the fields of astronomy, geology, meteorology, chemistry, and physics. The first four units give students who have had a junior high school course in general science a comprehensive review, but not a rehash, of the material. Students who have had no previous science courses will have no difficulty in understanding the subject matter. The remaining six units carry the students beyond the areas of science they may have studied previously. These units apply the principles of physical science to the utilization and control of the earth's matter and energy resources. The writing is in simple and clear language. Scientific terms are defined at the point of introduction. Thirty-six chapters in ten units.

CONTENTS—By Units: 1. Introduction. 2. What Man's Physical World Is Like. 3. The Changing Earth. 4. Matter and Energy—The Wealth of the Universe. 5. The Use of Matter in Its Natural State. 6. Refining and Processing the Earth's Matter Resources. 7. The Role of Synthetics in Modern Industry. 8. Energy That Man Does Not Control. 9. Bringing the Earth's Energy Under Control. 10. The Control of the World's Energy Supply.

McCORKLE—The Physical World

By PAUL MCCORKLE, Roanoke College. Second Edition.

465 *pp.*, 6 *x* 9, 292 *illus.* (1956).....$7.50*c*

A compact, straightforward orientation to the physical sciences in which the applications of many scientific principles to everyday life use are carefully presented. This survey text in the physical sciences places special importance on astronomy, earth science, chemistry, and physics. Each chapter is a complete discussion in itself, and numerous demonstrations and experiments are included for group or individual work, each chosen for effectiveness with simple equipment and technique. Contains a transvision insert, "A Nuclear Power Plant."

CONTENTS—The Sun. The Stars. The Moon and Eclipses. Planets and Other Bodies of the Solar System. The Earth as a Planet. The Earth as a Clock. The Earth's Changing Crust. The Hydrosphere. Rocks and Minerals. Products of Rocks and Minerals. The Atmosphere. Winds and Weather. The Atom and Its Radiations. Matter Associated with Chemical Energy. Chemistry Associated with Living Things. Nutrition. Water and Its Applications in Daily Life. True and Apparent Solutions. Cleansing. Textiles and Plastics. Energy Applied to Machines. Heat as a Form of Energy. Energy and Its Relation to Sound. Energy Manifested as Light. Electricity and Magnetism. Electricity in Our Daily Life. Modern Applications of the Electron in Motion. The Nucleus of the Atom. The Future of Science. APPENDIX. Visual Aids. Units and Constants. Relative Humidity by Wet- and Dry-bulb Determination. Vapor-pressure Table for Water. Vapor-density Table for Water. Table of Elements. Glossary of Nuclear-physics Terms. The Uranium Radioactive Series. Star Charts.

FRANK—Introduction to Mechanics and Heat

By NATHANIEL H. FRANK, Massachusetts Institute of Technology. Second Edition.

384 *pp.*, 6 *x* 9, *illus.* (1939).....$7.95*c*

A college text for the introductory technical course in physics, developing a logical, unified treatment of the subject matter. Comprising the topics of mechanics, acoustics, and heat, so that the student may learn to appreciate and to utilize fundamental and general methods of attack on problems in all branches of physics.

CONTENTS—Fundamental Definitions; Linear Kinematics of a Mass Point; Plane Kinematics of a Mass Point; Newton's Laws; Statics of a Particle; Linear and Plane Dynamics; Work and Energy; Potential Energy; Special Dynamics of a Mass Point; Dynamics of a System of Particles; Statics of Rigid Bodies; Plane Dynamics of Rigid Bodies; Special Rigid-body Motions; Planetary Motion; Gravitation; Hydrostatics; Fluid Dynamics; Static Elasticity; Dynamics of Elasticity; Acoustics; Temperature and Thermometry; The First Law of Thermodynamics; Heat Conduction; Thermodynamics and Kinetic Theory of an Ideal Gas; The Properties of Real Gases; The Second Law of Thermodynamics.

FRANK—Introduction to Electricity and Optics

By NATHANIEL H. FRANK, Massachusetts Institute of Technology. Second Edition.

278 *pp.*, 6 *x* 9, 278 *illus.* (1950).....$7.95*c*

A college text for the introductory technical course in physics. It is a compact, logical exposition of the fundamental laws of the electric and the magnetic field, explaining elementary applications of these laws to circuits, t[illegible]

t Textbook edition available at educational list price.

study of the electrical and magnetic properties of matter, and to the field of optics.

CONTENTS—Fields of Force. The Electrostatic Field of Force. The Sources of the Electrostatic Field. Induced Charges and Capacity. Steady Electric Currents. The Magnetic Field of Force. The Magnetic Field of Steady Currents. Induced Electromotive Forces and Inductance. Elementary Alternating-current Circuits. Displacement Current and Electromagnetic Waves. Radiation of Electromagnetic Waves. Electronic Conduction in Vacuum and in Metals. Dielectrics, Magnetic Properties of Matter. Electromagnetic Waves in Material Bodies. Geometrical Optics and Simple Optical Instruments. Dispersion and Scattering. Interference. Diffraction. Heat Radiation. Appendix I: Electromagnetic Units. Appendix II: Physical Constants. Index.

FURRY, PURCELL, AND STREET—Physics For Science and Engineering Students

By WENDELL H. FURRY, EDWARD M. PURCELL, and J. CURRY STREET, Harvard University.

694 *pp.*, 800 *illus.* (1952).....$8.95*c*

A well-written and authoritative text emphasizing understanding of fundamental physical laws and basic analyses rather than mention of special applications. The treatment of electricity is given primarily in cgs units; an Appendix provides a discussion of mks units. The language of calculus (carefully explained) is used in some of the arguments, but only a few of the problems involve calculus.

CONTENTS—Kinematics. Dynamics of a Particle. Work and Energy. Dynamics of a Rigid Body. Angular Momentum. Static Equilibrium. Periodic Motion. Gravitation. Properties of Matter. Statics of Fluids. Dynamics of Fluids. Temperature and Expansion. Calorimetry and Conservation of Energy. Behavior of Gases and Kinetic Theory. Further Considerations in Kinetic Theory. Change of State. Transfer of Heat. Thermodynamics. Wave Motion. Sound. Musical Sounds. Electrostatics. Electric Condensers—Dielectrics. Magnetism. Electric Currents—Ohms Law. Chemical and Thermoelectric Effects. Magnetic Fields of Currents. Electromagnetic Induction. Alternating Currents. Electronics. General Behavior and Nature of Light. Images. Lenses. Optical Instruments. Interference. Diffraction. Spectra and Color. The Quantum. The Structure of the Atom. The Nucleus. Cosmic Rays and Elementary Particles.

FREEMAN—Modern Introductory Physics

By IRA M. FREEMAN, Rutgers University. Second Edition.

497 *pp.*, 6 *x* 9, *illus.* (1957).....$7.25*c*

A general beginning text which stresses the more modern aspects of physics over the classical. This text emphasizes the historical and philosophical aspects of the subject and treats in depth a selection of topics. In this edition the problem lists have been expanded in almost every chapter, and the range of difficulty of the exercises has been increased.

CONTENTS—Preface. The Method of Science. Physics as an Exact Science. Force and Equilibrium. Motion. Force and Motion. Mechanical Energy. Heat Energy and Molecules. Rotation and Vibration. Waves. The Nature of Light. Ray Optics. Dispersion and Spectra. Diffraction, Interference, and Polarization of Light. Electrostatics Electric Currents. Electromagnetism. Electrons. Isotopes, X Rays, and Natural Radioactivity. Origin and Early Development of the Quantum Theory. Waves and Corpuscles: the Newer Quantum Theory. Nuclear Disintegration. The Structure of the Nucleus. Conclusions. Appendixes. Visual Aids. Index.

MARGENAU, WATSON, AND MONTGOMERY—Physics

Principles and Applications

By HENRY MARGENAU and W. W. WATSON, Yale University; and C. G. MONTGOMERY. Second Edition.

806 *pp.*, 6 *x* 9, 647 *illus.* (1953).....$8.95*c*

Long a standard text in introductory physics for science and engineering students, this book is outstanding for its clarity and treatment of text and problems. It contains material to meet the needs of more than a one-year course, yet the material is not too rigorous or extensive for the beginning student. A wide variety of worked examples are employed everywhere in the text. Use of the calculus begins in Chapter 5, Chapters 1–4 on topics not requiring it.

CONTENTS—The Methods of Physics. Introduction to Mechanics; Forces. Statics. Elasticity. Description of Motions; Kinematics. Force and Acceleration; Dynamics. Special Motions in a Plane. Work, Momentum, Conservation Principles. Dynamics of a Rigid Body. Motions under Inverse-square Laws of Force. Oscillations. Hydrostatics. Hydrodynamics. Intermolecular Forces. Temperature and Thermal Expansion. Calorimetry, Change of State. Properties of Gases and Vapors. Kinetic Theory. The Laws of Thermodynamics. Transfer of Heat. Meteorology. Electric Charges and Coulomb's Law. The Electric Field and Potential. Dielectrics and Capacitance. Electric Currents. Chemical and Thermal Electromotive Forces. Magnetic Forces on Currents. Electrical Instruments. The Magnetic Field Produced by Currents. Magnetic Fields and Poles. Induced Electromotive Force. The Magnetic Properties of Matter. Alternating Currents. Electronics. Wave Motion. Production and Reception of Sound. The Nature of Light. Reflection and Refraction at Plane Surfaces. Reflection and Refraction at Spherical Surfaces. Lenses. Optical Instruments. Photometry. Spectra and Color. Interference. Diffraction. Radiant Energy. Atomic Structure. Nuclear Physics. Appendixes: Units. Values of Important General Physical Constants. Conversion Table of Electrical Units. Greek Alphabet. Useful Mathematics. Natural Trigonometric Functions. Logarithms. Index. Index of Tables. Answers to Problems.

SMITH AND COOPER—The Elements of Physics

By ALPHEUS W. SMITH, Emeritus, The Ohio State University, and JOHN N. COOPER, U. S. Naval Postgraduate School. Sixth Edition.

652 *pp.*, 6 *x* 9, 787 *illus.* (1957).....$8.00*c*

Here is a textbook for the college general physics course, suitable for arts college students interested in physical science for educational reasons, and for the engineering course in schools where calculus is not a prerequisite for physics. It covers the conventional areas of mechanics, sound, heat, light, electricity, electronics, atomic physics, and nuclear physics. Although the coverage is broad, much of the detail of the previous edition has been eliminated to make room for recent developments in physics. There are approximately 200 new figures and double the number of problems with answers to the odd-numbered ones.

CONTENTS—Preface. MECHANICS. Physics and Measurement. Vector Quantities. Statics and Equilibrium. Linear Motion. Force and Motion. Uniform Circular Motion and Gravitation. Work and Energy. Friction and Simple Machines. Liquids at Rest. Molecular Forces and Motions. Gases. Fluids in Motion. Rotary Motion. Elasticity and Harmonic Motion. WAVE MOTION AND SOUND. Wave Motion. Sound Waves. Sound Sources. Audition and Sound Spectra. HEAT. Temperature and Heat. Thermal Expansion. Kinetic Theory of Gases. Change of Phase. Transfer of Heat. Heat and Work. Physics of the Weather. LIGHT. Illumination and the Propagation of Light. Reflection of Light. Refraction and Dispersion. Lenses. Optical Instruments. Spectra and Color. Interference and Diffraction. Polarization. ELECTRICITY. Electric Charges at Rest. Potential. Capacitance and Dielectrics. Electric Current and Resistance. Electric Circuits. Chemical and Thermal Electromotive Forces. Magnetic Fields of Current. Magnets. Induced Electromotive Forces. Generators and Motors. Alternating Currents. ELECTRONICS. Electrons and Gaseous Ions. Photoelectricity and Thermionic Emission. Electronics. ATOMIC AND NUCLEAR PHYSICS. Atomic Structure. X-rays. Radioactivity and Nuclear Physics. Nuclear Structure and Nuclear Energy. Appendix. Index.

WEBER, WHITE, AND MANNING—College Physics

By ROBERT L. WEBER, MARSH W. WHITE, KENNETH V. MANNING, The Pennsylvania State University. Third Edition.

627 *pp.*, 7¼ *x* 9⅛, *illus.* (1959)....$8.50*c*

The third edition of this elementary college text places greater emphasis on modern physics, with expanded treatments of relativity and quantum theory, atomic physics, solid-state electronics, and nuclear physics. Simple, direct, concise explanations and solved numerical examples help students to acquire an exact knowledge of physical principles. Facility in the application of the principles is encouraged by discussion questions, careful treatment of units, proper use of significant figures, and a pairing of problems with answers.

CONTENTS—MECHANICS. The Fields and Uses of Physics; Measurement. Vectors; Forces at a Point. Velocity and Acceleration. Force and Motion. Projectile Motion. Friction. Work and Power. Energy. Torque. Rotation of Rigid Bodies. Momentum. Uniform Circular Motion. Elastic Properties of Solids. Vibratory Motion. Liquids at Rest. Fluids in Motion. Properties of Gases. Molecular Theory of Matter. HEAT. Temperature Measurement; Thermal Expansion. Heat Quantities. Heat Transfer. Thermodynamics. SOUND. Wave Motion. Sound Waves. Acoustics. ELECTRICITY AND MAGNETISM. Electric Charges and Fields. Electric Potential. The Electric Current. Electric Circuits. Electrical Measurements. Electric Energy and Power. Magnetic Effects of Electric Current. Electric Instruments. Magnetic Properties; The Magnetic Circuit. Induced Emf's. Electromagnetic Induction. Capacitance. Alternating-current Series Circuits. Conduction in Gases; Electronics. LIGHT. Light and Illumination. Reflection of Light. Refraction of Light. Thin Lenses. The Eye and Optical Instruments. Dispersion; Spectra. Color. Interference and Diffraction. Polarized Light. MODERN PHYSICS. Relativity and Quantum Theory. Atomic Physics. Solid-state Electronics. Nuclear Physics. APPENDIX. Solution of Physical Problems. Significant Figures in Measurements and Computations. Metric Systems of Electric Units: Table 1—Permitivity and Permeability for Free Space; Table 2—Electric and Magnetic Quantities in Different Metric Systems. Greek Alphabet. Derivations. Tables: Values of Important Physical Constants; Natural Sines and Cosines; Natural Tangents and Cotangents. INDEX.

WEBER, WHITE, AND MANNING—Physics for Science and Engineering

By ROBERT L. WEBER, MARSH W. WHITE, and KENNETH V. MANNING, The Pennsylvania State University. Revised Edition. 830 *pp.*, 6 *x* 9 (1957).....$8.50*c*

Designed to introduce basic principles of general physics to technical students at the college level. Gives students of science and engineering a precise understanding of the important physical principles that are the foundations of further work in science and technology. The rigorous treatment of the book aims to give serious students insight into complex physical phenomena so that they can acquire facility in the solution of physical problems. The mathematical analysis and development of physical concepts and problems have been revised in this edition to make use of differential and integral calculus wherever this method is more direct and natural than the numerical and algebraic methods.

CONTENTS—Preface. MECHANICS. The Fields and Uses of Physics: Measurement. Vectors: Forces at a Point. Velocity and Acceleration. Force and Motion. Projectile Motion. Friction. Work and Power. Energy. Torque. Rotation of Rigid Bodies. Momentum. Uniform Circular Motion. Elastic Properties of Solids. Vibratory Motion. Liquids at Rest. Fluids in Motion. Properties of Gases. Molecular Theory. HEAT. Temperature Measurement; Thermal Expansion. Heat Quantities. Heat Transfer. Thermodynamics. SOUND. Wave Motion. Sound Waves. Acoustics. ELECTRICITY AND MAGNETISM. Electric Charges and Fields. Electric Potential. The Electric Current. Electric Circuits. Electric Measurements. Magnetic Effects of Electric Currents. Electrical Instruments. Magnetic Properties of Materials. Electric Energy and Power. Induced Emf's. Electromagnetic Induction. Capacitance. Alternating Currents. Conduction in Gases; Electronics. LIGHT. Light and Illumination. Reflection of Light. Refraction of Light. Thin Lenses. The Eye and Optical Instruments. Dispersion; Spectra. Color. Interference and Diffraction. Polarized Light. MODERN PHYSICS. Atomic Physics. Nuclear Physics. APPENDIX. Solution of Physical Problems. Significant Figures in Measurements and Computations. Metric Systems of Electric Units. Greek Alphabet. Tables. Index.

WEBER—Physics for Teachers

By ROBERT L. WEBER, Pennsylvania State Univ.

In Press

An intensive study of a small number of related topics in physics, grouped under two main headings—Space, and the Atom. The text was specifically designed for individual reading by in-service high school teachers, and for class use in short programs, particularly summer programs for teachers, where it has been extensively tested. The topics were chosen as being those of greatest current interest in the physical explorations of atoms and the spatial environments of the earth and the planets.

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PHYSICS HANDBOOK LIBRARY $54.75*hb*

American Institute of Physics—American Institute of Physics Handbook

Condon and Odishaw—Handbook of Physics

Laboratory Manuals, Problems, and Experiments

HARRIS—Experiments in Applied Physics

By NORMAN C. HARRIS, School of Education, University of Michigan. *Series in Tech. Educ.* 264 *pp.*, 8¼ *x* 11, 165 *illus.* (1963)..$4.50*c*

A laboratory manual for college physics courses emphasizing the applications of physics to engineering, technology, and industry. Practical in approach, it is closely related to technology and applied engineering. This manual trains the student to observe, think, and react: 1) by making him accept responsibility for the results of experiments; 2) by encouraging him to write clear, meaningful technical reports. The 49 experiments in the manual cover: Properties of Matter, Mechanics, Heat, Wave Motion and Sound, Light and Optics, Electricity and Magnetism, and Modern Physics. The experiments, used in looseleaf form, have been classroom tested for a number of years. The manual requires a research-type laboratory report for each experiment: the experiments are closely related to the kind of laboratory and research work actually done on the job by the technician.

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Heat Measurement—Specific Heat. 23. Change of State—Latent Heat. 24. Heat Transfer—Conductivity. 25. Mechanical Equivalent of Heat. 26. Air Conditioning Processes. PART III. WAVE MOTION AND SOUND. 27. Wave Motion—Frequency of a Vibrating Fork. 28. Velocity of Sound by Resonance Methods. 29. Vibrating Strings—The Sonometer. PART IV. LIGHT AND OPTICS. 30. Photometry and Illumination. 31. Study of a Spherical Mirror. 32. Index of Refraction. 33. Image Formation by a Thin Lens. 34. Optics of the Human Eye. 35. Study of the Refracting Telescope. 36. Spectroscopic Analysis of Light. 37. Polarized Light. PART V. ELECTRICITY AND MAGNETISM. 38. Magnetic and Electric Fields. 39. Measuring Electrical Resistance—Ohm's Law. 40. Series and Parallel Circuits. 41. Electricity by Chemical Action. 42. Heating Effect of Electric Current—Electric Power. 43. Studies of Electromagnetic Induction. 44. Principles of Generators and Motors. 45. Properties of Alternating Current Circuits. PART VI. MODERN PHYSICS. 46. Electron Tube Characteristics—The Triode. 47. The Cathode Ray Oscilloscope. 48. Radioactivity—The Geiger Counter and Ratemeter. 49. The Wilson Cloud Chamber. *Appendix:* Table I. English and Metric Equivalents. II. Physical Constants. III. Useful Numerical Relationships. IV. Densities: Solids, Liquids, and Gases. V. Young's Modulus. VI. Work, Power, and Heat Units. VII. Coefficients of Linear Expansion. VIII. Specific Heat. IX. Resistivity of Metals. X. Trigonometric Functions.

INGERSOLL, MARTIN, AND ROUSE—A Laboratory Manual of Experiments in Physics

By LEONARD ROSE INGERSOLL; MILES JAY MARTIN, General Electrical Research Laboratory, Schenectady, New York, and THEODORE ALTON ROUSE, University of Wisconsin. Sixth Edition.

286 *pp.*, 6 *x* 9, 124 *illus.* (1953)....$4.95*c*

The 77 experiments in this widely used manual include more material than can be used in any one course, but allow the instructor to select a list to fit any requirements based on student interest, available equipment, and level of difficulty.

CONTENTS—Introduction. Mechanics. Heat. Electricity and Magnetism. Wave Motion and Sound. Light. Appendix I. Descriptive Notes. Appendix II. Tables. Index.

WHITE AND MANNING—Experimental College Physics

By MARSH W. WHITE and KENNETH V. MANNING, The Pennsylvania State University. Third Edition.

347 *pp.*, 6 *x* 9, *illus.* (1953).....$5.45*c*

The book's 45 chapters include background theory, procedure, review questions, and thought-provoking questions and problems for the 76 experiments. The material covers those topics usually included in laboratory courses in general college physics. The authors divide the field of general college physics into chapters, each containing a concise but complete treatment of the pertinent basic theory, followed by detailed directions for from one to three corresponding experiments. A list of review questions and problems completes each chapter.

SUTTON—Demonstration Experiments in Physics

By RICHARD M. SUTTON, Editor, California Institute of Technology.

545 *pp.*, 6 *x* 9, 408 *illus.* (1938).....$8.50*c*

A collection of nearly twelve hundred lecture experiments for the use of high school and college teachers of physics and general science. The book was prepared under the auspices of the American Association of Physics Teachers, and includes contributions from two hundred physicists in one hundred and thirty institutions. Descriptions of experiments are direct and emphasis has been placed upon simplicity of apparatus and procedure.

CONTENTS—Mechanics; Wave Motion and Sound; Heat; Electricity and Magnetism; Light; Atomic and Electronic Physics.

High School Physics

MARBURGER AND HOFFMAN—Physics for Our Times

By WALTER G. MARBURGER, Western Michigan University, Kalamazoo, Michigan, and CHARLES W. HOFFMAN, Aberdeen Proving Ground, Maryland, and Harford Junior College, Harford, Maryland. 1958 Edition.

602 *pp.*, 6⅜ *x* 9¼, 525 *illus.* (1958)..$5.48*s*
Laboratory Introduction
147 *pp.*, 8¼ *x* 11, 62 *experiments* (1955) $2.12*s*
Tests (Dickinson).....$.88*s*
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The new edition of this modern physics textbook emphasizes the revolutionary advances in science during recent months. It presents newest information on nuclear power plants, guided missiles, artificial satellites, high-fidelity sound reproduction, nuclear batteries, jet stream, and electronics in everyday living. It includes also 20 sidelights on 26 topics of outstanding importance today, an 8-page transvision—"A Nuclear Power Plant," additional problems for gifted students, 20 numerical tables, and a glossary of 465 physics terms.

CONTENTS—Physics and You. Unit One. Mechanics in Our World. 1. Matter and Measurement: *The Tools of Our Science.* 2. Forces in Liquids: *Buoyancy and Gravity.* 3. Forces in Gases: *Fluids in Action.* 4. Forces and Motion: *Laws of Motion.* 5. Energy and Power: *Machines at Work.* 6. Forces between Molecules: *Adhesion and Cohesion.* Unit Two. Heat in Our World. 7. Temperature and Expansion: *Measuring Heat Effects.* 8. Changes of State of Matter: *Measuring Heat Quantities.* 9. Transfer of Heat: *Methods of Transfer.* 10. Transformation of Heat: *Heat Does Work.* Unit Three. Sound in Our World. 11. Sounds and Sound Waves: *Sound Energy.* 12. Applications of Acoustics: *Control of Sound.* Unit Four. Electricity in Our World. 13. Static Electricity: *Electrostatic Laws.* 14. Electric Circuits: *The Flow of Electrons.* 15. Electric Currents: *Heating and Chemical Effects.* 16. Electricity and Magnetism: *Force in Magnetic Fields.* 17. Electricity and Mechanical Work: *Alternating and Direct Currents.* 18. Electricity for Communication: *Wires and Waves.* Unit Five. Light in Our World. 19. Illumination and Reflection: *Measuring Light Intensity.* 20. Refraction and Lenses: *Control of Light Rays.* 21. Color and Spectra: *Color around Us.* 22. Our World of Atoms. X-rays and Radioactivity: *Effects from within Atoms.* 23. Nuclear Energy: *A New Source of Energy.* Appendix. Numerical Tables (1 to 20). *Conversion Factors—Numerical Equivalents. Physical Constants. Positive and Negative Powers of Ten. Glossary. Additional Problems. Abbreviations Used in Physics.*

Practical and Applied Physics

HARRIS AND HEMMERLING—Introductory Applied Physics, 2nd Ed.

By NORMAN C. HARRIS, University of Michigan and EDWIN H. HEMMERLING, Bakersfield College. *Series in Tech. Educ.*

800 *pp.*, 6⅜ *x* 9¼, 579 *illus.* (1963)..$8.50*c*

The new edition brings the material up to date with latest technological advances. Text is designed for a two-semester introductory physics course at the technical institute-junior college level. Because the purpose is to prepare students for the technical problems encountered in industry, concept and present-day practice are fused throughout. Calculus is not required. A modern format increases the usefulness of the book for both student and instructor.

CONTENTS—Preface. Introduction. Precision Measurement in Industry. The Structure of Matter. Properties of Solids. Properties of Liquids. Properties of Gases.

Force and Motion. Work, Energy and Power. Vectors and Graphic Solutions. Analysis of Basic Machines; Friction. Rotation; Torque; Power Transmission. Temperature and the Effects of Heat. Heat and Change of State. Heat Transfer. Heat Engines. Refrigeration. Air Conditioning. Wave Motion and Sound. Technical Applications of Sound Waves. The Nature of Light and Illumination. Principles of Optical Instruments. Magnetism and Electrostatics. Basic Electric Circuits. Sources and Effects of Electric Current. Electromagnetism. Electromagnetic Induction. Alternating Current. Generators and Motors. Production and Distribution of Electric Power. Industrial Electronics. Principles of Electronic Communication. Uses of Atomic Energy. Appendixes: I. Physical Tables of Reference. II. Natural Trigonometric Functions. III. Common Logarithms of Numbers. IV. Selected Electrical Tables.

WHITE, MANNING, AND WEBER—Practical Physics

By MARSH W. WHITE, KENNETH V. MANNING, and ROBERT L. WEBER. The Pennsylvania State University. Second Edition.

484 *pp.*, 6 *x* 9, *illus.* (1955).....$5.95*c*

Presenting a brief, introductory treatment of physics, this concise book contains simple, direct explanations and solved numerical examples. Basic principles are covered in a logical manner and are designed to include all of the essential technical material. The careful algebraic treatment of units as an aid in the analysis of problems is emphasized. Important topics are illustrated by one or more solved problems which are worked out in full detail. In the completely rewritten second edition, numerous minor changes have been made throughout to improve and clarify the statements and chapters have been added on color, modern atomic physics, and nuclear physics.

CONTENTS—PHYSICS, THE SCIENCE OF MEASUREMENT. The Fields and Uses of Physics. Measurement; Units; Accuracy and Significant Figures. HEAT. Temperature Measurement; Thermal Expansion. Heat Quantities. Heat Transfer. PROPERTIES OF MATTER. Properties of Solids. Properties of Liquids. Gases and the Gas Laws. Meteorology. MECHANICS. Velocity and Acceleration. Force and Motion. Friction; Work and Energy. Simple Machines. Power. Concurrent Forces; Vectors. Nonconcurrent Forces; Torque. Projectile Motion; Momentum. Uniform Circular Motion. Rotary Motion; Moment of Inertia. Vibratory Motion; Resonance. SOUND. Sound Waves. Acoustics. ELECTRICITY. Sources and Effects of Electric Current. Ohm's Law; Resistance; Series and Parallel Circuits. Electrical Measuring Instruments. Electric Power and Energy; Heating Effect. Chemical Effects of Electric Current. Induced Emf. Alternating Current. Electronics. LIGHT AND MODERN PHYSICS. Light: Illumination and Reflection. Refraction of Light; Lenses; Optical Instrument. Color. Atomic Physics. Nuclear Physics. EXPERIMENTS. APPENDIX. Solution of Physical Problems. Rules for Computation with Experimental Data. Fundamentals of Trigonometry. Recording of Experimental Data; Graphical Analysis. Visual Aids. Tables. Index.

Plasma Physics

BRANDSTATTER—An Introduction to Waves, Rays, and Radiation in Plasma Media

By JULIUS J. BRANDSTATTER, Stanford Research Institute.

704 *pp.*, 7¼ *x* 9⅞, *illus.* (1963).....$15.00*i*

Presents a unified treatment of the various factors which affect the propagation of waves, rays, and radiation in anisotropic plasma media. It covers both the macroscopic and microscopic description of such media and combines in a synthetic manner the electrodynamic and hydrodynamic coupling that can exist in a plasma. Of special interest is the thorough treatment of the propagation of electromagnetic waves in both homogeneous and inhomogeneous dissipative anisotropic media and the systematic discussion of magnetohydrodynamic waves. The treatment of the propagation of rays in anisotropic plasmas is self-contained and unique. A detailed exposition of radiation in anisotropic media from first principles enhances the pedagogical value of the book. This book is intended to teach engineers, research workers, and students who are concerned with problems in plasma media.

DRUMMOND—Plasma Physics

Edited by JAMES E. DRUMMOND, Boeing Scientific Research Laboratories.

386 *pp.*, 6 *x* 9, 92 *illus.* (1961).....$12.50*c*

Essays by Russian and American scientists on the various phases of plasma physics research ranging from the most basic kinematics of growing waves in plasmas to the most pertinent diagnostic experiments for thermonuclear research. A history of plasma physics and a number of special topics in the Introduction provide a general background for the reading of the other chapters.

CONTENTS—Introduction—J. E. Drummond. BASIC PLASMA THEORY. The Spectra of Systems of Interacting Particles—Y. Klimontovich and V. P. Silin. Statistical Mechanics of Reversible Processes in Plasma Dynamics—E. Meeron. Amplifying and Evanescent Waves, Convective and Nonconvective Instabilities—P. A. Sturrock. How to Distinguish between Attenuating and Amplifying Waves—O. Buneman. MAGNETOHYDRODYNAMICS. A Review of Magnetohydrodynamics—Y. A. Yoler. The Bennett Pinch—O. Buneman. Stability of Relativistic Self-Focusing Streams—D. Finkelstein and P. A. Sturrock. MICROWAVE PLASMA PHYSICS. Electrical Properties of High Altitude Shock Waves—P. A. Goldberg. Transverse Plasma Waves and Plasma Vortices—O. Buneman. Plasma Power Absorption—J. E. Drummond. Microwave Diagnostics for Controlled Fusion Research—C. Wharton. Plasma Magnetron Theory—J. E. Drummond. Plasma Physics Research at M. I. T.—S. C. Brown.

STIX—The Theory of Plasma Waves

By THOMAS H. STIX, Princeton University. *Adv. Physics Monog.*

296 *pp.*, 6 *x* 9, *illus.* (1962).....$9.75*c*

This treatise is concerned with the small-amplitude oscillations of a collision free plasma immersed in a strong static magnetic field. Discussed are waves in a cold plasma, energy flow through anisotropic inhomogeneous media, and normal-mode solutions of some illustrative boundary-value problems. The second and major portion of the work deals with the finite-temperature plasma, starting from the Boltzmann-Vlasov equations. A number of topics, including Dawson and Van Kampen modes, trapped particles, Landau, cyclotron and transit-time damping, and effects of free treating and of finite particle pressure are considered.

CONTENTS—Topology of Wave-normal Surfaces. Waves in a Cold Uniform Plasma. Energy Flow and Accessibility Kruskal-Schwarzschild Solutions for a Bounded Plasma. Free and Forced Oscillations of a Cold Cylindrical Plasma. Plasma Models with Discrete Structure. Longitudinal Oscillations in a Plasma of Continuous Structure. Derivation of the Theory for a Hot Plasma in a Magnetic Field. Some Applications of the Equivalent Dielectric Tensor. Reflection and Absorption of Waves in a Hot Inhomogeneous Plasma. Index. List of Symbols.

Mechanics

CHRISTIE—Vector Mechanics, 2nd. Ed.

By DAN E. CHRISTIE, Bowdoin College. *In Press*

This second edition of *Intermediate College Mechanics* provides a systematic presentation of the elements of mechanics using the language of vector algebra and vector calculus. Vectors are introduced and used in ample detail to assist the reader in thinking vectorially about geometric and physical situations. The concepts of mechanics are introduced gradually, with dimensional analysis as a guide. The

moderately-rigorous mathematical structure of the theory is continually reinforced by an appeal to physical intuition and experience.

CONTENTS—Introduction: The Nature of Mechanics. Distance, Position, and Vectors. Forces. Applications: Statics of Concurrent and Coplanar Forces. Scalar Calculus of Vectors and Particles Motion. Particle Dynamics. Energy and Momentum. Applications: Vibrations in One Dimension. Vector Products. Couples and Moments. Applications: Rigid-body Statics. Moment of Momentum and Particle Orbits. Rigid-body Kinematics. Relative Motion of a Particle. Mass Center and Gyration Radius. Applications: Rigid-body Mechanics. Fields and Gradients. Vector Properties of Fluids and Flow. Elementary Properties of Elasticity. Vector Treatment of Stress and Strain. Wave Motion in One Dimension. Kinetic Theory. Introduction to Methods of Lagrange and Hamilton. Appendices.

BECKER—Introduction to Theoretical Mechanics

By ROBERT A. BECKER, Aerospace Corporation. *Int'l Series in Pure & App. Physics.*
420 *pp.*, 6 *x* 9, 238 *illus.* (1954).....$9.50*c*

Provides a sound introduction to classical mechanics. The problem-solving point of view has been emphasized. The author's aim is to train the student to approach fairly difficult problems in a confident and successful manner, and to accustom him to the procedures of physical reasoning. The number of topics covered has been limited, so that none is superficially treated.

CONTENTS—Fundamental Principles. Statics of a Particle. Statics of Rigid Bodies. Statics of the Suspended String or Cable. Work and Stability of Equilibrium. Motion of a Particle in a Uniform Field. Oscillatory Motion of a Particle in One Dimension. Motion of a System of Particles. Motion of a Rigid Body in a Plane. Motion of a Particle under the Action of a Central Force. Accelerated Reference Systems and Constrained Motion of a Particle. Motion of a Rigid Body in Three Dimensions. Generalized Coordinates. Vibrating Systems and Normal Coordinates. Vibrating Strings and Wave Motion. Appendix I: Area and Volume Elements in Common Coordinate Systems. Appendix II: Elements of Ordinary Differential Equations. Appendix III: Note on Hyperbolic Functions. Appendix IV: Commonly Employed Expressions Involving Partial Derivatives. Appendix V: Note on Fourier Series.

SLATER AND FRANK—Mechanics

By JOHN C. SLATER and NATHANIEL H. FRANK, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*
289 *pp.*, 6 *x* 9, 46 *illus.* (1947).....$6.95*c*

This text for advanced physics courses considers such topics as the dynamics of rectilinear motion, qualitative use of the energy integral, free oscillations, forced motion under general external forces, motion of a particle in a central field, the inverse square law, the free motion of a symmetrical rigid body, normal modes of oscillation, wave propagation in the weighted string, approximate solution for slowly changing density and tension, perturbation theory, initial conditions with the circular membrane, velocity, flux density, and lines of flow and static elasticity.

CONTENTS—The Linear Motion of a Particle; The Linear Oscillator; Motion in Two and Three Dimensions; LaGrange's and Hamilton's Equations; The Motion of Rigid Bodies; The Motion of a Symmetrical Rigid Body; Coupled Systems and Normal Coordinates; The Vibrating String; Wave Propagation in the String; The String with Variable Tension and Density; The Vibrating Membrane; Stresses, Strains, and Vibrations of an Elastic Solid; Flow of Fluids; Appendixes; Suggested References; Index.

SYNGE AND GRIFFITH—Principles of Mechanics

By J. L. SYNGE, Institute of Advanced Study, Dublin, and B. A. GRIFFITH, University of Toronto. Third Edition.
525 *pp.*, 6 *x* 9, 185 *illus.* (1959).....$9.95*c*

Well-known text for intermediate courses in mathematics, physics, and mechanical engineering departments. The emphasis is on basic concepts and comprehensiveness of coverage from the beginning of mechanics to gyroscopic theory. No advanced knowledge of three-dimensional geometry is assumed, and vector notation is used only where it is a definite aid.

CONTENTS—PLANE MECHANICS: FOUNDATIONS OF MECHANICS. Methods of Plane Statics. Applications in Plane Statics. Plane Kinematics. Methods of Plane Dynamics. Applications in Plane Dynamics—Motion of a Particle. Applications in Plane Dynamics—Motion of a Rigid Body and of a System. Plane Impulsive Motion. MECHANICS IN SPACE: Products of Vectors. Statics in Space. Kinematics; Kinetic Energy and Angular Momentum. Methods of Dynamics in Space. Applications in Dynamics in Space—Motion of a Particle. Applications in Dynamics in Space—Motion of a Rigid Body. General Methods and Relativity. The Equations of Hamilton and Lagrange. Hamiltonian Methods. Theory of Vibrations. The Special Theory of Relativity.

Heat, Thermodynamics, Kinetic Theory and Statistical Mechanics

GURNEY—Introduction to Statistical Mechanics

By RONALD W. GURNEY. *Int'l Series in Pure & App. Physics.*
268 *pp.*, 6 *x* 9, 59 *illus.* (1949).....$7.95*c*

An advanced text for graduate students of physics and chemistry. The author has ingenious methods whereby the student is enabled to grasp the basic principles and the nature of partition functions. Problems appear at the end of each chapter.

CONTENTS—Groups of Particles—The Number of Different Ways in Which the Energy Can Be Shared—The Most Probable Distribution—The Concept of Temperature. The Use of Undetermined Multipliers—An Absolute Scale of Temperature—The Partition Function—Bose-Einstein Statistics—A Monatomic Gas. The Distribution of Particles through Alternative Sets of Energy Levels. Conditions for Equilibrium—A Saturated Vapor—Order and Disorder in Crystals. The Partition Function and Properties of Monatomic and Diatomic Gases—Localized and Unlocalized Particles. The Relation between Statistical Mechanics and Thermodynamics. Conditions of Equilibrium for a Partially Dissociated Diatomic Gas—for a Saturated Vapor—for Alternative Modifications of a Solid. Substitutional and Interstitial Solutions—Solubility—Lowering of the Freezing Point—Substances Which Are Not Miscible in All Proportions. A Solute Which Is Completely Dissociated—Solutions in Alpha and Gamma Iron—Equilibrium between Cementite and Gamma Iron. Adsorption. The Total Energy Shared by Interacting Parties—Quantization of the Total Energy—A Group of Samples. Classical Mechanics—Phase Space—Imperfect Gases—The Condensation of a Vapor. Vibration of Molecules and of Crystal Lattices—The Density of States—Evaluation of the Partition Function of a Solid. The Rotation of Diatomic Molecules—Vapor Pressure Constants and Chemical Constants—Orthohydrogen and Parahydrogen. Particles in Electric and Magnetic Fields—Order and Disorder in Crystals—Fermi-Dirac Statistics—Free Electrons in a Metal—Bose-Einstein Statistics—Atomic Nuclei. Appendix. Index.

KENNARD—Kinetic Theory of Gases

With an Introduction to Statistical Mechanics
By E. H. KENNARD, formerly Cornell University. *Int'l Series in Pure & App. Physics.*
483 *pp.*, 6 *x* 9, 94 *illus.* (1938).....$9.95*r*

An introduction to the kinetic theory of gases and a survey of the theory. There is an account of the wave-mechanical theory, and especially of the degenerate Fermi-Dirac case. A concise chapter on general statistical mechanics is included. A number of carefully worded theorems have been inserted in the guise of problems.

CONTENTS—Elements of the Kinetic Theory of Gases. Distribution Law for Molecular Velocities. General

Motion and Spatial Distribution of the Molecules. Viscosity, Thermal Conduction, Diffusion. The Equation of State. Energy, Entropy, and Specific Heats. Fluctuations. Properties of Gases at Low Densities. Statistical Mechanics. Wave Mechanics of Gases. Electric and Magnetic Properties of Gases.

LANE—Superfluid Physics

By CECIL T. LANE, Yale University. *Int'l Series in Pure & App. Physics.*

240 *pp.*, 6 *x* 9, 99 *illus.* (1962).....$9.50*c*

Constitutes an up-to-date survey of research in the field of superfluidity. It is aimed at acquainting newcomers to the field with the most important advances made in the last twenty years, and as such covers both superfluid helium and superconductivity. The treatment is both theoretical and experimental and the level of mathematical treatment is elementary. The main emphasis is placed on the physical principles involved. The text gives the non-specialist reader a sufficient background in the subject, both theoretical and experimental, and enables him to understand and, or pursue research in the speciality. The approach is sufficiently detailed and historical to guide the reader through the immense volume of publication which has occurred in the past two decades. At the same time, the treatment is sufficiently elementary so that the potential reader is not required to make use of an array of reference books which may either not be available to his or else of whose existence he is unaware.

CONTENTS—Production and Handling of Liquefied Gases. Helium 11. The Two-fluid Model of He 11. Entropy Waves or Second Sound. Phonons and Rotons. Helium in Rotation. He^3 Solutions. Critical Velocities. Superconductivity.

PRESENT—Kinetic Theory of Gases

By R. D. PRESENT, The University of Tennessee. *Int'l Series in Pure & App. Physics.*

228 *pp.*, 6 *x* 9, 28 *illus.* (1958).....$7.95*c*

This addition to the field of pure and applied physics includes nearly all the major topics, but curtails some traditional material and omits some minor topics in order to provide a short book emphasizing the essential and currently important parts of the subject. The book starts at an elementary level and ends at an advanced level and requires little background in advanced calculus as mathematical prerequisite.

CONTENTS—Distribution Functions and the Perfect Gas Law—Introduction. Mean-free-path Methods and Transport Phenomena Diffusion. The Maxwell–Boltzmann Distribution Law. Imperfect Gases and Intermolecular Forces. Thermal Diffusion. Collision Dynamics, Cross Sections, Mutual Diffusion, and Chemical Kinetics. Brownian Motion and Density Fluctuations. Fundamental Experiments and Experimental Procedures. Introduction to Advanced Transport Theory. Intermolecular Forces. General Appendix. Bibliography. Index.

ZEMANSKY—Heat and Thermodynamics

By MARK W. ZEMANSKY, City College of the City of New York. Fourth Edition.

484 *pp.*, 6 *x* 9, *illus.* (1957).....$9.50*c*

Designed as an intermediate textbook to supply the needs of students who are in the first stage of preparation for a career in physics, chemistry, or engineering. The only prerequisites are a course in general college physics and one in calculus. In this edition: the chapter on Temperature has been rewritten to take cognizance of the adoption of the Giauque proposal that there be only one fixed point in thermometry; the entire chapter on low temperature physics has been updated; and the treatment of the heat capacity of chemically active gases has been expanded.

CONTENTS—Preface to the Fourth Edition. Preface to the First Edition. Notation. Temperature. Thermodynamic System. Work. The First Law of Thermodynamics. Transfer of Heat. Idea Cases. The Second Law of Thermodynamics. Reversibility and Irreversibility. The Carnot Cycle and the Kelvin Temperature Scale. Entropy. Properties of Pure Substances. The Steam Engine and the Refrigerator. Applications of Thermodynamics to Pure Substances. Applications of Thermodynamics to Special Systems. Change of Phase. The Physics of Very Low Temperatures. Chemical Thermodynamics. Ideal Gas Reactions. Heterogeneous Systems. Bibliography. Index. Answers to Problems.

ALLIS AND HERLIN—Thermodynamics and Statistical Mechanics

By WILLIAM P. ALLIS and MELVIN A. HERLIN, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

239 *pp.*, 6 *x* 9, 73 *illus.* (1952).....$7.95*c*

A text for the first-year graduate course given for physicists and some engineers. The material in the book has been selected from the point of view of the physicist. Enough statistical mechanics is included so that the student can glimpse the reason for the *Three Laws*, even though a proof is not given. The topics covered in thermodynamics are limited in order to provide time in a half-year course for the statistical mechanics. Nearly two hundred problems, both easy and difficult, are inserted at the ends of chapters.

CONTENTS—Preface. Part A: HEAT AND THERMODYNAMICS. Review of Mathematics. The Equation of State. The Gas Laws. The First Law. The Second Law of Thermodynamics. Consequences of the Second Law. Part B: STATISTICAL MECHANICS. Entropy and Probability. Maxwell-Boltzmann Statistics. Equipartition of Energy. Quantum Statistics. Degenerate Gases. Index.

Sound and Acoustics

CULVER—Musical Acoustics

By CHARLES A. CULVER, formerly Carleton College. Fourth Edition.

297 *pp.*, 6 *x* 9, 178 *illus.* (1956).....$7.50*c*

Written in a concise, logical, and easy-to-follow style by a scientist long recognized as a leading authority in the field of musical acoustics, this book will provide an authoritative but nonmathematical treatise for the use of professional musicians, college music majors, and others interested in the field of music. There is a list of questions and problems at the end of most chapters. Incorporated in this fourth edition are the latest findings of research workers in the field, including certain recent results secured by the author.

CONTENTS—Preface. Glossary. Basic Concepts. Simple Harmonic Motion. Nature and Transmission of Sound. Interference. Hearing. Resonance. Pitch. Quality. Musical Intervals and Temperament. Musical Strings. Stringed Instruments. Vibrating Air Columns. Wind Instruments. Vibrating Rods and Plates. Electronic Musical Instruments. Recording and Reproduction of Music. Architectural Acoustics. Index.

MORSE—Vibration and Sound

By PHILIP M. MORSE, Brookhaven National Laboratory. *Int'l Series in Pure & App. Physics.* Second Edition.

487 *pp.*, 6 *x* 9, 98 *illus.* (1948).....$9.50*c*

An outstanding text in theoretical physics for seniors and graduate students. The material on strings and room acoustics has been thoroughly revised so as to parallel the methods and terminology used in microwave discussions.

CONTENTS—Introductory: Definitions and Methods. A Little Mathematics. The Simple Oscillator: Free Oscillations. Damped Oscillations. Forced Oscillations. Response to Transient Forces. Coupled Oscillations. The Flexible String: Waves on a String. Simple Harmonic Oscillations. Forced Vibrations. Strings of Variable Density and Tension. Perturbation Calculations. Effect of Motion of the End Supports. The Vibration of Bars:

The Equation of Motion. Simple Harmonic Motion. Vibrations of a Stiff String. Membranes and Plates: The Equation of Motion. The Propagation of Sounds in Tubes. Propagation of Sound in Horns. The Radiation and Scattering of Sound. The Wave Equation. Radiation from Cylinders. Radiation from Spheres. Radiation from a Piston in a Plane Wall. The Scattering of Sound. The Absorption of Sound at a Surface. Sound Transmission through Ducts. Standing Waves of Sound: Normal Modes of Vibration. Damped Vibrations. Reverberation. Forced Vibrations. Bibliography. Glossary of Symbols. Tables of Functions. Plates. Index.

BERANEK—Acoustics

By LEO L. BERANEK, Massachusetts Institute of Technology.

470 *pp.*, 6 *x* 9, 342 *illus.* (1954).....$13.75*i*

Designed for all those interested in any of the several phases of the subject, it covers all recent advances in the field and such new topics as dynamical analogies, directivity patterns, acoustical circuits, loudspeaker enclosures, sound transmission through structures, noise reductions, speech communication, and psychoacoustic criteria. Of particular interest to those wishing information about high-fidelity music reproduction is the chapter on loudspeaker enclosures. Throughout emphasis is placed on the interrelations of the source, the room, and the listener.

CONTENTS—Suggestions for Instructors. Introduction and Terminology. The Wave Equation and Solutions. Electro-mechano-acoustical Circuits. Radiation of Sound. Acoustic Components. Microphones. Direct-radiator Loudspeakers. Loudspeaker Enclosures. Horn Loudspeakers. Sound in Enclosures. Noise Control. Acoustic Measurements. Hearing. Speech Intelligibility, and Psychoacoustic Criteria. Problems. Appendix I. Appendix II. Index.

BERANEK—Noise Reduction

By LEO L. BERANEK, Massachusetts Institute of Technology, and President, Bolt, Beranek and Newman, Inc.

752 *pp.*, 6 *x* 9, 420 *illus.* (1960).....$14.50*r*

Developed from a series of lectures given at M.I.T., and designed specifically for the engineer with no special training in acoustics, this practical text and reference book on the fundamentals of noise control deals with the nature of sound and its measurement, fundamentals of noise control, criteria, case histories, and advanced topics in the field. The material herein represents the combined efforts of a group of nineteen of the most experienced engineers in noise reduction in the country.

CONTENTS—Preface. Some History and Earlier Reference, by L. L. Beranek. SOUND WAVES AND THEIR MEASUREMENT: Behavior of Sound Waves, by W. J. Galloway and L. L. Beranek. Decibels and Levels, by E. M. Kerwin. Selection of Instrumentation, by A. C. Pietrasanta. Basic Sound Measuring System, by D. N. Keast. Performance of Sound Vibration Instrumentation, by G. W. Kamperman. Some Practical Acoustical Measurements, by L. L. Beranek, N. Doelling, and D. L. Klepper. Measurement of Power Levels and Directivity Patterns of Noise Sources, by F. M. Wiener. FUNDAMENTALS UNDERLYING NOISE CONTROL: Sound Propagation Outdoors, by F. M. Wiener. Sound in Small Enclosures, by L. L. Beranek and R. H. Bolt. Sound in Large Enclosures, by R. F. Lambert. Properties of Porous Acoustical Materials, by L. L. Beranek and S. Labate. The Transmission and Radiation of Acoustic Waves by Solid Structures, by L. L. Beranek. Sound Transmission through Structures Containing Porous Materials, by L. L. Beranek. Acoustical Materials for Architectural Uses, by J. B. C. Purcell. Reactive Mufflers, by P. A. Franken. Dissipative Mufflers, by N. Doelling. Isolation of Vibrations, by D. F. Muster and R. Plunkett. CRITERIA FOR NOISE AND VIBRATION CONTROL: Damage Risk Criteria for Hearing, by K. D. Kryter. Criteria for Noise in Buildings and Vehicles, by L. L. Beranek. PRACTICAL NOISE CONTROL: Noise Control in Ventilation Systems, C. H. Allen. Case Histories of Machine and Shop Quieting, L. N. Miller. Case Histories of Noise Control in Office Buildings and Homes, by L. N. Miller. Noise of Air Jets and Jet Engines, by P. A. Franken. Quieting of Trains and Airplanes, by P. A. Franken and L. L. Beranek.

CARLIN—Ultrasonics

By BENSON CARLIN, Circo Ultrasonic Company. Second Edition.

309 *pp.*, 6 *x* 9, 259 *illus.* (1960).....$12.50*i*

Provides practical information for use in the design, repair, and actual construction of ultrasonic equipment. This revised edition includes special experimental results of many details of equipment, and information on advances in cleaning and degreasing, soldering, plating, and other operations. Covers also advances in materials and design of transducers and generators, and presents modern material on testing ultrasonic equipment of all types.

CONTENTS—Ultrasonic Waves. Crystals for Ultrasonic Use. Crystal Holders for Ultrasonic Use. Magnetostriction. Miscellaneous Transducers for Generating Ultrasonics. Measurement. Ultrasonic Power Equipment. Nondestructive Testing of Materials: Continuous-wave and Resonance. Nondestructive Testing of Materials: Pulsed. Effects. Applications.

HARRIS—Handbook of Noise Control

Edited by CYRIL M. HARRIS, Columbia University. Prepared by a Staff of Specialists.

1184 *pp.*, 6 *x* 9, 700 *illus.* (1957)..$19.50*hb*

An authoritative handbook of noise, its nature, its measurement, and techniques of its control in buildings, industry, transportation and the community. Fundamentals, practical and engineering techniques, and useful reference data are provided in connection with such subjects as how noise affects man in efficiency, bearing, and speech communication; problems of vibration and its control; use of various materials and methods in controlling industrial noise; treatment of special types of noise sources; and aircraft, automobile, and rail transportation noise and its control.

CONTENTS—Introduction. Physical Properties of Noise and Their Specification. Propagation of Sound in the Open Air. The Hearing Mechanism. The Loudness of Sounds. Audiometric Testing in Industry. Hearing Loss Resulting from Noise Exposure. Ear Protectors. Effects of Noise on Speech. Effects of Noise on Behavior. Effects of Vibration on Man. Principles of Vibration Control. Vibration Isolation. Vibration Damping. Vibration Measurement. Instruments for Noise Measurements. Noise Measuring Techniques. Acoustical Materials. Control of Solid-borne Noise in Buildings. Transmission of Air-borne Noise through Walls and Floors. Acoustical Filters and Mufflers. System Considerations in Noise Control Problems. Gear Noise. Bearing Noise. Fan Noise. Noise in Water and Steam Systems. Heating and Ventilating System Noise. Compressor, Household-Refrigerator, and Room Airconditioner Noise. Reduction of the Noise of Iron-core Transformers and Chokes. Electric Motor and Generator Noise. Automobile Noise. Noise in Rail Transportation. Aircraft Noise Sources. Aircraft Noise Control. Community Noise and City Planning. Community Reaction to Noise. Legal Aspects of the Aircraft Noise Problem. Legal Liability for Loss of Hearing. Anti-noise Ordinances. Noise Control Requirements in Building Codes.

LINDSAY—Mechanical Radiation

By ROBERT BRUCE LINDSAY, Brown University. *Int'l Series in Pure & App. Physics.*

415 *pp.*, 6 *x* 9, 85 *illus.* (1960).....$10.50*c*

Adopting a unified approach, this fine text combines more aspects of mechanical radiation than are commonly found in single volumes. It is designed for a course introducing wave motion at the senior-graduate level, and using mechanical radiation as the principal vehicle, but laying stress on those aspects common to all kinds of wave propagation. Although theory is stressed throughout, the author has not allowed the mathematical analysis to dominate the physical meaning of

the results. Each chapter is supplemented by a list of illustrative problems.
CONTENTS—Elements of Wave Motion. Some General Properties of Progressive Waves. Waves Subject to Boundary Conditions. Harmonic Analysis. Waves in Strings. Waves in Membranes. Propagation of Deformation Disturbances through Elastic Media. Waves in Rods and Plates. Waves in Incompressible Fluids. Sound Waves in Fluids. Elastic Waves in the Atmosphere, the Sea, and the Earth. Acoustic Radiation and the Properties of Matter. APPENDIX A. General Solution of the Wave Equation. B. Matric Techniques in Filter Analysis. PROBLEMS. INDEX.

Electricity and Magnetism

PECK—Electricity and Magnetism
By EDSON RUTHER PECK, Northwestern University.
476 *pp.*, 6 *x* 9, 171 *illus.* (1953).....$8.95*c*
An intermediate text for physics students, this volume provides an unusually careful, clear, and critical discussion of the underlying principles of electromagnetism, including both field and circuit theory. A background in general physics and elementary calculus is assumed, and the book uses simple vector notation, introducing more advanced mathematics as needed. It goes as far as simple applications of the Maxwell equations to electromagnetic waves and radiations. Several special topics have been omitted completely rather than being given shallow treatment. Although primarily theoretical, the book maintains contact with the laboratory by means of numerous practical problems.
CONTENTS—Preface. Electrostatics. THE ELECTROSTATIC FIELD OF FREE CHARGES. Dielectric Theory. Electrostatic Energy, Force, and Capacitance. Electric Current. Direct-current Circuits. STEADY-STATE MAGNETISM. Electromagnetic Induction. Magnetic Properties of Matter. Transient Currents. Analysis of Alternating-current Circuits. Maxwell's Equations. Electromagnetic Waves. Index.

HARNWELL—Principles of Electricity and Electromagnetism
By G. P. HARNWELL, University of Pennsylvania. *Int'l Series in Pure & App. Physics.* Second Edition.
655 *pp.*, 6 *x* 9, 397 *illus.* (1949).....$9.95*c*
For advanced undergraduate or graduate instruction in electricity and magnetism. Emphasis is on the experimental and scientific rather than on the mathematical or engineering aspects of the subject. In the second edition, greater attention is given to the application of the properties of electricity and magnetism to atomic phenomena. Basic techniques in the field of radar are specifically described.
CONTENTS—Electrostatics. Electrostatic Energy and Dielectrics. Physical Characteristics of Dielectrics and Conductors. Direct-current Circuits. Nonohmic Circuit Elements and Alternating Currents. Chemical, Thermal, and Photoelectric Effects. Thermionic Vacuum Tubes. Electrical Conduction in Gases. Electromagnetic Effects of Steady Currents. Changing Electric Currents and Electromagnetic Reactions. Magnetic Properties of Matter. Electromagnetic Machinery. Simple Circuits Containing Inductance, Capacitance, and Resistance. Coupled Circuits, Filters, and Lines. Vacuum Tube Circuits. Radiation. Mathematical Appendix. Index.

SLATER AND FRANK—Electromagnetism
By JOHN C. SLATER and NATHANIEL H. FRANK, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*
240 *pp.*, 6 *x* 9, 40 *illus.* (1947).....$6.95*c*
Based on the material pertaining to Electromagnetism presented in the authors' well-known *Introduction to Theoretical Physics.* In making this volume a complete and self-contained unit, the authors have retained the general approach of the larger work, but have improved the continuity and expanded the material by more detailed explanations and additional illustrative examples.
CONTENTS—The Field Theory of Electromagnetism. Electrostatics. Solutions of Laplace's Equation. Dielectrics. Magnetic Fields of Currents. Magnetic Materials. Electromagnetic Induction and Maxwell's Equations. Electromagnetic Waves and Energy Flow. Electron Theory and Dispersion. Reflection and Refraction of Electromagnetic Waves. Wave Guides and Cavity Resonators. Spherical Electromagnetic Waves. Huygen's Principle and Green's Theorem. Fresnel and Fraunhofer Diffraction.

SMYTHE—Static and Dynamic Electricity
By WILLIAM R. SMYTHE, California Institute of Technology. *Int'l Series in Pure & App. Physics.* Second Edition.
591 *pp.*, 6 *x* 9, 144 *illus.* (1950).....$12.50*r*
Text for senior and graduate students of physics. Formulates the basic laws of electrostatics, magnetostatics, and electromagnetic theory by concise vector methods, from the underlying experimental facts. The emphasis is upon problems, one hundred of which have been worked out.
CONTENTS—Basic Ideas of Electrostatics. Capacitors. Dielectrics, Systems of Conductors. General Theorems. Two-dimensional Potential Distributions. Three-dimensional Potential Distributions. Electric Current. Magnetic Interaction of Currents. Electromagnetic Induction. Transient Phenomena in Networks. Alternating Currents. Eddy Currents. Magnetism. Plane Electromagnetic Waves. Electromagnetic Radiation. Wave Guides and Cavity Resonators. Special Relativity and the Motion of Charged Particles. Appendix: Systems of Electrical Units. Relations between CGS and MKS Mechanical Units. Transposition of MKS Formulas into CGS ESU. Transposition of MKS Formulas into CGS EMU. Transposition of CGS ESU or CGS EMU Formulas into MKS. Dimensions of Electric and Magnetic Quantities. Numerical Values. Index.

STRATTON—Electromagnetic Theory
By JULIUS ADAMS STRATTON, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*
615 *pp.*, 6 *x* 9, *illus.* (1941).....$12.50*r*
An advanced text and reference book in which the author places primary emphasis on dynamic rather than static field theory, postulating Maxwell's equations from the outset. The book devotes the first chapter to a mathematical formulation of the general theory and a discussion of curvilinear coordinate systems and the elements of tensor analysis. This is followed by a comprehensive study of energy and stress relations.
CONTENTS—The Field Equations. Stress and Energy. The Electrostatic Field. The Magnetostatic Field. Plane Waves in Unbounded, Isotropic Media. Cylindrical Waves. Spherical Waves. Radiation. Boundary-value Problems. Index.

SMITH AND WIEDENBECK—Electrical Measurements
By ARTHUR W. SMITH; and M. L. WIEDENBECK, University of Michigan. Fifth Edition.
307 *pp.*, 6 *x* 9, 278 *illus.* (1959).....$7.95*c*
Gives the intermediate student a facility in handling work in electricity and magnetism from the theoretical as well as the experimental standpoint, and prepares him for further work in the fields of advanced electricity and electronics. At all times an attempt is made to relate the various phenomena to basic physical laws and concepts. Extensively revised and updated, this edition now includes a new chapter on the treatment of errors, and selected problems at the end of each chapter.
CONTENTS—Evaluation of Errors. Review of Elementary Electrostatics. Ammeter and Voltmeter Methods. Circuit Theorems and Their Applications to Direct Current Circuits. The Current Galvanometer. Ballistic Galvanometer. Measurement of Resistance—The Wheatstone Bridge. The Wheatstone Bridge (con-

tinued). Potentiometer and Standard-cell Methods. Measurement of Power. Magnetic Effects of Electrical Currents. Faraday's Law, Mutual Induction, Self Induction and Magnetic Measurements. Transient Currents. Alternating Current. Solution of A.C. Circuits by means of Complex Notation. Measurement of Capacitance. Measurement of Self Inductance, Mutual Inductance and Frequency. Electronics. Index.

TRALLI—Classical Electromagnetic Theory

By NUNZIO TRALLI, C. W. Post College of Long Island University.

310 *pp.*, 6 *x* 9, *illus.* (1963).....$9.95*c*

This book is intended as a textbook for a course on classical electromagnetic theory on the advanced undergraduate-graduate level. Detailed presentation of the subject matter along with the examples in the text permit self-study and make the book self-intelligible. The student is assumed to have no more mathematical background than that provided by undergraduate courses in advanced calculus and ordinary differential equations. More complicated mathematical methods are developed in the text as required. The magnetic field is introduced via the Lorenz transformation.

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X-Rays

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By GEORGE L. CLARK, University of Illinois. *Int'l Series in Pure & App. Physics.* Fourth Edition.

843 *pp.*, 6 *x* 9, *illus.* (1955).....$15.00*c*

A complete coverage and integration of all branches of X-ray science, history, instrumentation and engineering, physics, chemical effects, biology, medicine, crystallography, and structure and texture of materials. Portrays X-rays as a most useful tool in research and testing in all types of industry.

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Light and Optics

HARDY AND PERRIN—The Principles of Optics

By ARTHUR C. HARDY and FRED H. PERRIN, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

632 *pp.*, 6 *x* 9, *illus.* (1932).....$11.00*c*

Presupposes the general knowledge of optical phenomena is acquired in the first- and second-year course in college physics. The scope of the book is such that it should provide a solid foundation for those who intend to specialize in other branches of physics or engineering.

CONTENTS—General Concepts; Refraction at a Spherical Surface; The Thin Lens in Air; The Thick Lens; The Limitation of Rays by Apertures; Lens Aberrations; The Resolving Power of Optical Instruments; Radiation; Light Sources; The Eye; Photography; Light-sensitive Cells; Photometry; Color; Optical Glass; The Manufacture of Optical Parts; The Testing of Optical Parts; Miscellaneous Optical Materials; The Design of Optical Instruments; Ophthalmic Instruments; Photographic Objectives; Magnifiers and Oculars; Telescopes; Microscopes; Stereoscopy; Projection Systems; Spectroscopic Apparatus; Interference and Interferometers; Polarized Light and Its Applications. Index.

JACOBS—Fundamentals of Optical Engineering

By DONALD H. JACOBS, National Bureau of Standards, Washington, D.C.

487 *pp.*, 6 *x* 9, 343 *illus.* (1943).....$9.50*c*

Gives a comprehensive outline of the fundamentals of optics, and an analytical description of the functioning and design of representative (military) optical instruments. Also states the fundamental principles of the mechanical design of optical instruments, and concludes with an introduction to optical design.

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JENKINS AND WHITE—Fundamentals of Optics

By FRANCIS A. JENKINS, deceased, and HARVEY E. WHITE, Radio Station WQED, Pittsburgh, Pennsylvania. Third Edition.

637 *pp.*, 6 *x* 9, 422 *illus.* (1957).....$9.95*c*
A widely used text in intermediate light and optics courses. The book contains enough geometrical optics to provide text material for a separate course in this subject. The quantum behavior of light is considered in the final chapter on photons.

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MORGAN—Introduction to Geometrical and Physical Optics
By JOSEPH MORGAN, Texas Christian University.
450 *pp.*, 6 *x* 9, 281 *illus.* (1953).....$8.95*c*
An intermediate college text for students of physics. The book is designed to fulfill the needs of physics majors as well as of students who seek a general comprehensive treatment of the field. Its aim is to develop the basic principles, illustrate with typical applications, and to introduce methods of analysis and exactness of thought.

CONTENTS—Preface. Fundamentals of Reflection and Refraction. The Spherically Refracting Surface. Spherical Mirrors. Thin Spherical Lenses. Thick Spherical Lenses. Theory of Stops. Mirror and Lens Aberrations. Optical Instruments. Photometry. Nature of Light and Wave Motion. Interference. Interferometers and Interferometry. Diffraction. Resolving Power. Absorption, Scattering, and Dispersion. Polarization. Spectra. Wave-particle Aspects of Light and Matter. Appendixes. Answers to Odd-numbered Problems. Index.

STONE—Radiation and Optics
An Introduction to the Classical Theory
By JOHN M. STONE, University of California, Berkeley.
534 *pp.*, 6 *x* 9, 220 *illus.* (1963)....$11.75*c*
The purpose is to present an account of the mathematical theory of electromagnetic radiation, suitable for advanced undergraduate and first-year graduate students, with full explanations, comparisons with observation, and applications to many optical problems and instruments. The main development is based on the Lorentz electron theory, for which complete mathematical and physical background is provided. Questions of theory and measurement of spectrum, coherence, polarization, and fluctuations are given careful consideration with full use of Fourier integrals.

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Modern and Atomic Physics

BEISER—Concepts of Modern Physics
By ARTHUR BEISER, New York Univ.
320 *pp.*, 6⅜ *x* 9¼ (1963).....$7.95*c*
Self-contained and contemporary in viewpoint, this rigorous, extremely clear, and logically developed treatment of modern physics is distinguished by its well-integrated progression from relativity and quantum theory through the atom, molecule, and nucleus. Designed for sophomore or junior year students majoring in engineering or one of the physical sciences, and who have completed elementary courses in physics, chemistry, and calculus, it delves into quantum theory early with thorough discussions of quantum-mechanical ideas and formulas. Numerous examples and problems are included.

CONTENTS—BASIC CONCEPTS. The Special Theory of Relativity. Relativistic Dynamics. The Particle Properties of Waves. The Wave Properties of Particles. THE THEORY OF THE ATOM. Atomic Structure. The Bohr Theory of the Atom. Quantum Mechanics. Quantum Theory of the Hydrogen Atom. Complex Atoms. PROPERTIES OF MATTER. The Physics of Molecules. Statistical Mechanics. The Solid State. THE NUCLEUS. The Atomic Nucleus. Nuclear Decay. Nuclear Reactions. Elementary Particles. INDEX.

HARNWELL AND LIVINGOOD—Experimental Atomic Physics
By GAYLORD P. HARNWELL, University of Pennsylvania, and J. J. LIVENGOOD, Collins Radio Co., Cedar Rapids, Iowa. *Int'l Series in Pure & App. Physics.*
472 *pp.*, 6 *x* 9 (1933).....$9.95*c*
This book develops in a logical and convincing manner the fundamental conceptions of modern atomic physics and is unique in that it gives descriptions of how the fundamental quantities of atomic physics are actually measured.

CONTENTS—The Velocity of Propagation and the Pressure of Radiation; Black-body Radiation; The Atomicity of Matter and Electricity; The Ratio of Charge to Mass of Electrons and Ions; The Wave Aspect of Matter; Thermionic and Photoelectric Effects; Line Spectra; Atomic Energy States; X-rays; Radioactivity; Appendix A. Instruments for Measuring Small Currents and Potential Differences. Appendix B. Vacuum Technique; Table of Fundamental Physical Constant; Periodic Table; Author Index; Subject Index.

OLDENBERG—Introduction to Atomic and Nuclear Physics
By OTTO OLDENBERG, Harvard University. Third Edition.
380 *pp.*, 6 *x* 9, 157 *illus.* (1961)....$7.95*c*
This superior and widely used work has proved to be ideally suited for the one-term intermediate course designed for sophomores and juniors who have taken at least a one-year general physics course. No knowledge of calculus is required. The book is intended for students who may later go into physics research, as well as for premedical and engineering students who do not plan to continue in physics. Features: exceptionally clear presentation and organization; excellent selection of problem material; emphasis on the relation of theoretical ideas to basic experimental facts.

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tion to Wave Mechanics. PART VI. SOLID STATE. Metals, Insulators, and Semiconductors. PART VII. NUCLEAR STRUCTURE. Stable Isotopes. Natural Transmutation and Radioactivity. Artificial Transmutation and Radioactivity. Fission and Fusion. Cosmic Rays. Conclusion. APPENDIXES. INDEX.

PAULING AND GOUDSMIT—The Structure of Line Spectra

By LINUS PAULING and SAMUEL GOUDSMIT. *McG-H Paperbacks Ed.* $2.75*pa**

This lucid description of the vector model of the atom, combined with a highly intelligible account of the interpretation of line spectra in terms of the model, first appeared in 1930. Now again in 1963. The book gives the theoretical background of principles governing structure of line spectra, and introduces experimental data as illustrative examples.

* *Available only through your local bookstore.*

LEIGHTON—Principles of Modern Physics

By ROBERT B. LEIGHTON, California Institute of Technology. *Int'l Series in Pure & App. Physics.*

795 *pp.*, 6 *x* 9, 216 *illus.* (1959).....$12.50*c*

Expository and analytical, rather than historical and discursive, this book concentrates first on broad fundamental principles which underlie physics as we know it, and then shows how these principles operate to yield the observed complex behavior of matter. The author treats special relativity from the four-vector point of view, and deals with quantum mechanics by starting with fundamental postulates whose connections with experimental facts are pointed out as they are introduced.

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RICHTMYER, KENNARD, AND LAURITSEN—Introduction to Modern Physics

By F. K. RICHTMYER; E. H. KENNARD, David Taylor Model Basin of the United States Navy; and T. LAURITSEN, California Institute of Technology. *Int'l Series in Pure & App. Physics.* First Edition.

666 *pp.*, 6 *x* 9, 248 *illus.* (1955)....$11.50*c*

This popular first-year graduate level text is designed to give the student an introduction to the physical theories and fundamental advances of the past half-century. Guided by the historical approach, the description of actual experimental investigations is preferred over more summary forms of presentation. Emphasis is on careful discussion of selected important topics. The new materials on nuclear physics and cosmic rays reflect changes of the past few years.

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RIDENOUR—Modern Physics for the Engineer

Edited by LOUIS N. RIDENOUR. *Univ. of Cal. Engg. & Sc. Exten. Series.*

495 *pp.*, 6 *x* 9, *illus.* (1954).....$9.50*cL*
*McG-H Paperbacks Ed.**

Modern engineering rests on a base of experimental and theoretical work in the sciences as well as on experience gained from centuries of engineering practice. This book is designed to give engineers a brief account of those developments in the fundamental physical sciences which underlie all engineering.

CONTRIBUTORS—Royal Weller, Leonard I. Schiff, Frederick Seitz, Charles Kittel, W. A. Fowler, Glenn T. Seaborg, Jesse Greenstein, Leonard B. Loeb, Walter Bleakney, Simon Ramo, H. P. Robertson, W. D. Hershberger, R. V. Langmuir, W. K. H. Panofsky, David T. Griggs, Roger Revelle, John Bardeen, J. B. Wiesner, and Louis N. Ridenour.

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Edited by L. N. RIDENOUR and WILLIAM A. NIERENBERG, NATO. *Univ. of Cal. Engg. & Sc. Exten. Series.*

383 *pp.*, 6 *x* 9, 190 *illus.* (1961)....$9.50*c*

In 1954 McGraw-Hill published *Modern Physics for the Engineer*, First Series, a collection of lectures given by a group of distinguished physicists and others in a highly successful extension course at the University of California, Los Angeles. Coordinated by the late Dr. Louis N. Ridenour, the course was designed to give engineers a brief account of those developments in the fundamental physical sciences which underlie all engineering. The present volume comprises a second series of lectures, coordinated by Dr. William N. Nierenberg, and given during the academic year 1957–1958 at various institutions throughout the state of California.

CONTENTS—PART 1. THE LAWS OF NATURE. New Particles and Old Principles, by Emilio Segrè, University of California, Berkeley. Status Report on New Particles, by Luis W. Alvarez, University of California, Berkeley. Nuclear Shell Structure, by Maria Goeppert Mayer, University of California, La Jolla. Electron Scattering and Nuclear Structure, by Robert Hofstadter, Stanford University. Electrons and Nuclei in Ideal Crystals, by M. V. Houston, Rice Institute. The Properties of Liquid Helium, by John R. Pellam, California Institute of Technology. Superconductivity, by M. Tinkham, University of California, Berkeley. Magnetohydrodynamic Waves, by Alfredo Banos, Jr., University of California, Los Angeles. PART 2. MAN'S PHYSICAL ENVIRONMENT. Origin of the Elements, by William A. Fowler, California Institute of Technology. RADIO ASTRONOMY, by Ronald N. Bracewell, Stanford University. Origin of the Earth's Magnetic Field, by Walter M. Elsasser, University of California, La Jolla. PART 3. TECHNOLOGY. Controlled Thermonuclear Fusion, by S. A. Colgate, University of California, Berkeley; and Herbert F. York, Department of Defense, Washington, D.C. Nuclear Reactors—A Novel Technology, by Mark M. Mills, University of California, Berkeley. Particle Accelerators, by Robert R. Wilson, Cornell University.

Frontiers of Aerodynamic Research, by Ronald Smelt, Lockheed Missile Systems Division, Sunnyvale, California. INDEX.

SLATER—Modern Physics

By JOHN C. SLATER, Massachusetts Institute of Technology.

322 *pp.*, 6 x 9, *illus.* (1955).....$8.50*r*

Offers an elementary survey of modern physics, including its development from about 1900 to the present. The author presents historical development, showing how the great new theories followed each other almost inevitably, with the latest nuclear discoveries being completely dependent on prior understanding of wave mechanics, quantum mechanics, and the electrodynamics of particles. Written in a concise, brilliant, and lucid style, the book is descriptive rather than mathematical.

CONTENTS—The Atom in Nineteenth Century Physics. The Electron Theory and Relativity. Beginning of the Quantum Theory. The Nuclear Atom. The Bohr Atom. X-rays and Crystal Structure. Atomic Spectra and the Periodic System of the Elements. Complex Spectra and Molecular Spectra. Wave Mechanics. Atoms, Molecules, and Solids. Nuclear Physics and High-Energy Particles. Appendix: Important Physical Constants. Masses of Light Nuclei and Elementary Particles. Suggested References. Answers to Problems.

STRANATHAN—The "Particles" of Modern Physics

By J. D. STRANATHAN, University of Kansas.

583 *pp.*, 218 *illus.* (1942).....$8.50*c*

This is a text for courses in Modern Physics or Atomic Physics. Distinguished by clarity of presentation and readability, thoroughness with which concepts are linked with experimental evidence, and extensive references to pertinent periodical literature, the study is built around the "particles" of modern physics, the electron, positive rays, photons, positrons, neutrons, mesotrons, X-rays, alpha, beta, and gamma rays, and cosmic rays.

CONTENTS—Gaseous Ions and Their Behavior; The Electron; The Electrical Discharge; Cathode Rays, the Ratio e/m for Electrons; Positive Rays, Isotopes; Photons, the Photoelectric Effect, Radiation and Absorptions; X-rays; Alpha, Beta, and Gamma Rays, Natural Radioactivity; The Positron; The Neutron; Atomic Nuclei, Artificial Disintegration; Cosmic Rays; The Mesotron; Particles? or Waves?; Problems and Answers.

Spectroscopy

JUDD—Operator Techniques in Atomic Spectroscopy

By BRIAN R. JUDD, University of Paris. *Adv. Physics Monog. Series.*

256 *pp.*, 6 x 9, 51 *illus.* (1963).....$9.95*r*

The author seeks to provide a theoretical background for physicists engaged, or about to engage in spectroscopic work with atoms or ions, particularly those of the rare earth or actinide series. The theory is presented in a way that lends itself naturally to a study of f electrons. At the same time, the author makes the treatment sufficiently general to allow applications to other types of electrons, for example, those in the p or d shells. A feature of the book is the use of continuous groups. The theory of fractional parentage is discussed in detail, and various methods for calculating the fractional parentage coefficients are described.

CONTENTS—Classical Methods. Crystal Fields. The n-j Symbols. Configuration of Two Electrons. Continuous Groups. Seniority. Fractional Parentage Coefficients. Configuration of More than Two Equivalent Electrons. INDEX.

TOWNES AND SCHAWLOW—Microwave Spectroscopy

By C. H. TOWNES, Columbia University, and A. L. SCHAWLOW, Bell Telephone Laboratories. *Int'l Series in Pure & App. Physics.*

698 *pp.*, 6 x 9, *illus.* (1955).....$13.50*r*

Presents a systematic and fairly complete account of the large amount of theory, experimental data, and experimental know-how which has been developed in this relatively new field. An attempt has been made to present not only the basic theory and properties of various types of microwave spectroscopes, but also the details of construction and the specific operating characteristics.

CONTENTS—List of Symbols. Introduction. Rotational Spectra of Diatomic Molecules. Linear Polyatomic Molecules. Symmetric-top Molecules. Asymmetric-top Molecules. Atomic Spectra. Quadrupole Hyperfine Structure in Molecules. Molecules with Electronic Angular Momentum. Magnetic Hyperfine Structure in Molecular Spectra. Interpretation of Hyperfine Coupling Constants in Terms of Molecular Structure and Nuclear Moments. Stark Effects in Molecular Spectra. Zeeman Effects in Molecular Spectra. The Ammonia Spectrum and Hindered Motions. Shapes and Widths of Spectral Lines. Microwave Circuit Elements and Techniques. Microwave Spectrographs. Millimeter Waves. Frequency Measurement and Control. The Use of Microwave Spectroscopy for Chemical Analysis. Appendix. Bibliography. Author Index. Subject Index. Fundamental Constants and Conversion Factors.

WHITE—Introduction to Atomic Spectra

By HARVEY E. WHITE, University of California. *Int'l Series in Pure & App. Physics.*

457 *pp.*, 6 x 9, *illus.* (1934).....$9.50*c*

A complete elementary treatment of the theoretical aspects of spectroscopy. The author fully develops each subject from the beginning, presenting principles and concepts in a lucid, thorough manner, and illustrating them with original diagrams and photographs of actual spectra.

CONTENTS—Early Historical Developments in Atomic Spectra. Introduction to the Quantum Theory and the Bohr Atom. Sommerfeld's Elliptic Orbits and Space Quantization. Quantum Mechanics and the Schrödinger Wave Equation. The Alkali Metals and the Periodic Table. Excitation Potentials, Ionization Potentials, and the Spectra of Ionized Atoms. Penetrating and Non-penetrating Orbits in the Alkali Metals. Doublet Fine Structure and the Spinning Electron. Hydrogen Fine Structure and the Dirac Electron. The Zeeman Effect and the Paschen-back Effect. Singlet and Triplet Series of Two-valence-electron Systems. The Atom Model for Two Valence Electrons. Zeeman Effect, Paschen-back Effect, and the Pauli Exclusion Principle, for Two Electrons. Complex Spectra. The Zeeman Effect and Magnetic Quantum Numbers in Complex Spectra. X-ray Spectra. Isoelectronic Sequences. Hyperfine Structure. Series Perturbations and Autoionization. The Stark Effect. The Breadth of Spectrum Lines.

Nuclear Physics

BURCHAM—Nuclear Physics

An Introduction

By W. E. BURCHAM, University of Birmingham, England.

739 *pp.* (1963).....$12.00*c*

Describes the facts and theories of nuclear physics from an experimental standpoint, emphysizing the relations between different branches of the subject and their connections with atomic and classical physics. Attempts to overcome the difficulty inherent in nuclear physics, a diffuse, complex, and interwoven pattern of knowledge in which logical development may easily be obscured by a mass of factual detail.

CONTENTS—THE NUCLEAR ATOM. Natural Radiography and the Discovery of the Nucleus. The Spectroscopy of Atoms and Molecules. Nuclear Effects in Spectros-

copy. EXPERIMENTAL TECHNIQUES OF NUCLEAR PHYSICS. General Properties of Ionizing Radiation. Nuclear Detectors. Measurement of Energy and Intensity of Ionizing Radiations. The Acceleration of Charged Particles to High Energies. STATIC PROPERTIES OF NUCLEI. Nuclear Models (1). The Nuclear Ground State and the Nuclear Level Spectrum. The Mass and Isotopic Abundance of Nuclei. Nuclear Charge, Nuclear Radius and Nuclear Moments. Nuclear Models (2). DYNAMICAL PROPERTIES OF NUCLEI. Radiative Processes in Nuclear Physics. General Features of Nuclear Reactions. Nuclear Reactions (Detailed Mechanisms). Radioactive Decay. Nuclear Orientation and Angular Correlation Experiments. THE BASIC INTERACTIONS OF NUCLEAR PHYSICS. Nuclear Forces.

EVANS—The Atomic Nucleus

By ROBLEY D. EVANS, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

950 *pp.*, 6 *x* 9, 300 *illus.* (1955)....$16.50*r*

This graduate text and reference in fundamental nuclear physics is characterized by unusually broad coverage, involving most of the present field of nuclear physics, both "intranuclear" and "extra-nuclear." In the discussion of each sub-topic, the book deals both with the experimental facts and with their interpretation on contemporary theories. The discussion of each topic is begun at the introductory level, then carried through intermediate levels of difficulty to advanced areas of current research.

CONTENTS—Charge of Atomic Nuclei. Radius of Nuclei. Mass of Nuclei and of Neutral Atoms. Nuclear Moments, Parity, and Statistics. Atomic and Molecular Effects of Nuclear Moments, Parity, and Statistics. Effects of Nuclear Moments and Parity on Nuclear Transitions. Isotopic Abundance Ratios. Systematics of Stable Nuclei. Binding Energy of Nuclei. Forces Between Nucleons. Models of Nuclei. Conservation Laws for Nuclear Reactions. Nuclear Reactions, Illustrated by B^{10} (α, p) and Its Associates. Energy Dependence of Nuclear-Reaction Cross Sections. Radioactive-series Decay. α-Ray Spectra. β-Ray Spectra. Ionization of Matter by Charged Particles. Elastic Scattering of Electrons and Positrons. Radiative Collisions of Electrons with Atomic Nuclei. Stopping of Electrons by Thick Absorbers. Passage of Heavy Charged Particles Through Matter. The Interaction of Electromagnetic Radiations with Matter. Compton Scattering and Absorption. Photoelectric Effect and Pair Production. Attenuation and Absorption of Electromagnetic Radiation. Statistical Fluctuations in Nuclear Processes. Statistical Tests for Goodness of Fit. Applications of Poisson Statistics to Some Instruments Used in Nuclear Physics.

GREEN—Nuclear Physics

By ALEX E. S. GREEN, Convair, San Diego, California. *Int'l Series in Pure & App. Physics.*

535 *pp.*, 6 *x* 9, 219 *illus.* (1955).....$10.75*c*

A systematic treatment of a vast subject in an active state of change and development. The book falls logically into five major topical groups: background; instruments and methods; experimental results and their interpretation; systematics and semi-empirical theory; and theory. The author points out clearly what is understood in this field, and also those areas which are not understood and in which future research is necessary. The systematics of nuclei as revealed by experimental evidence is presented first, followed by a discussion of the various nuclear models and their predictions compared with experiment.

CONTENTS—Relativistic Dynamics and Review of Atomic Physics. Static Properties of Nuclei. Accelerators. Precision Instruments and Methods. Detectors and Nuclear Techniques. Radioactivity. Nuclear Reactions. Systematics and Tendencies of Nuclei. Liquid-drop Model and Fission. Quantum Mechanics and the Nucleus. Nuclear Periodic Table. Nuclear Decay. Theory of Nuclear Reactions. Nuclear Forces.

LIVINGSTON AND BLEWETT—Particle Accelerators

By M. STANLEY LIVINGSTON, Massachusetts Institute of Technology and JOHN P. BLEWETT, Brookhaven National Laboratory. *Int'l Series in Pure & App. Physics.*

688 *pp.*, 6 *x* 9, 244 *illus.* (1962)....$17.50*c*

A comprehensive survey of the particle accelerator art. The text includes a great deal of historical background and theoretical material to give the reader a basic understanding of all the important accelerator types. The reader will be fascinated by the account of the invention and construction of the first cyclotron, by the long and frustrating history of attempts to make a betatron, by the details of the invention of strong focusing, by the explanation for the existence of the Mid-western Universities Research Association, and by many other of the developments described in the book. The organization of the material is primarily in terms of individual accelerators. Each type is treated in a separate chapter essentially complete in itself. The emphasis is on the physical principles of operation, particle orbits and their controlling fields and the design principles of the basic components. Explanations, both mathematical and verbal, are simple and clear enough that the average engineer or beginning graduate student will be able to read and understand all important features of the various accelerator types.

CONTENTS—Preface. Introduction. Low-voltage Generators. The Electrostatic Generator. Ion Sources. Particle Motion in Electric and Magnetic Fields. The Cyclotron—Magnetic Resonance Accelerator. The Betatron—Magnetic Induction Accelerator. Magnet Design and Measurement. The Principle of Phase Stability. The Linear Accelerator. The Synchrocyclotron. The Electron Synchrotron. The Pronton Synchrotron, Shielding for Accelerators. Alternating Gradient Accelerators. Table of Symbols. Index.

Quantum Mechanics

CONDON AND MORSE—Quantum Mechanics

By EDWARD U. CONDON, Editor, "Review of Modern Physics," and PHILIP M. MORSE, Professor of Physics, M.I.T.

McG-H Paperbacks Ed. $2.95*pa**

First published in 1929, now again in 1963, this remarkable collaboration is an outline of the known results obtained by use of the quantum mechanics. It analyzes developments in knowledge of atomic structure and the interpretation of spectroscopic and electronic phenomena during a period which was one of "the most exciting in the history of theoretical physics."

** Available only through your local bookstore.*

MATTHEWS—Introduction to Quantum Mechanics

By P. T. MATTHEWS, Imperial College, London.

190 *pp.*, 5¾ *x* 8⅞ (1963).....$5.00*cd*

Offers a sound introduction, providing a step-by-step guide to the basic concepts of quantum mechanics. Throughout the work, the mathematics is kept to a minimum, but at the same time the fundamental ideas are introduced in such a way that the student should be able to proceed more easily, either to more sophisticated discussions of the foundations of the general theory, or to more detailed treatments of its special branches.

PARK—Introduction to the Quantum Theory

By DAVID PARK, Williams College.

In Press

Uniquely organized so that all the theory could be given first, and then the applications, starting with Chapter 1 and proceeding to the end, or the theory could be taught along with the applications, since the chapters in each part parallel each other. Primarily for undergraduate courses in quantum mechanics, but can be used at the first year graduate level.

CONTENTS—THEORY. The Inadequacy of Classical Physics. The Wave Function. General Principles. Systems in One Dimension. Hermitian Operators and Angular Momentum. The Spinning Electron. Systems in Two and Three Dimensions. Approximate Methods of Calculation. The Theory of Scattering. Electromagnetic Radiation. Systems Containing Identical Particles. APPLICATIONS. Alpha Decay. Electrons in a Periodic Lattice. The Hydrogen Atom. The Helium Atom. Chemical Forces in H^+_2. The Neutron-Proton Interaction. Thermodynamics. Quantum Statistics.

SCHIFF—Quantum Mechanics

By L. I SCHIFF, Stanford University. *Int'l Series in Pure & App. Physics.* Second Edition.

417 *pp.*, 6 *x* 9, *illus.* (1955).....$8.95*c*

Provides a comprehensive treatment of the subject in a single volume of moderate size. The most distinctive features of the book are its emphasis on the physical significance of mathematical formalism; its comprehensive treatment of the important techniques of quantum mechanics, especially approximation methods; its illustrative examples which appear both in the text and in problems; and its detailed treatment of collision theory, field theory, and quantum electrodynamics.

CONTENTS—Preface. The Physical Basis of Quantum Mechanics. The Schrödinger Wave Equation. Eigenfunctions and Eigenvalues. Discrete Eigenvalues: Energy Levels. Continuous Eigenvalues: Collision Theory. Matrix Formulation of Quantum Mechanics. Approximation Methods for Stationary Problems. Approximation Methods for Time-dependent Problems. Identical Particles and Spin. Semiclassical Treatment of Radiation. Atoms, Molecules, and Atomic Nuclei. Relativistic Wave Equations. The Quantization of Wave Fields. Quantum Electrodynamics. Index.

TINKHAM—Group Theory and Quantum Mechanics

By MICHAEL TINKHAM, University of California, Berkeley. *Int'l Series in Pure & App. Physics.*

In Press

Purpose: (1) to present those elements of group theory most essential for physical applications; (2) to give a systematic, though brief, treatment of the quantum mechanics of atoms, molecules, and solids, emphasizing the use of group theoretical techniques. Other important methods are also included. There is a substantial treatment of the magnetic groups (Schubnikov groups) with illustrative applications to real magnetic systems.

CONTENTS—Abstract Group Theory. Theory of Group Representations. Physical Applications of Group Theory. Full Rotation Group and Angular Momentum. Quantum Mechanics of Atoms. Molecular Quantum Mechanics. Solid-state Theory.

Quantum Theory of Matter

SLATER—Quantum Theory of Atomic Structure—Volume I

By JOHN C. SLATER, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

502 *pp.*, 6 *x* 9, *illus.* (1960).....$13.00*r*

This is the first volume of a two-volume work, inaugurating a series of books which the author hopes to write, covering the field of application of quantum mechanics to the structure of atoms, molecules, and solids, and to the theory of the physical and chemical properties of matter. The present volume is fairly elementary, and is well suited as a text for a course on quantum theory. Nuclear theory is not discussed, and "atomic structure" refers to the outer electrons, and their relation to the spectra of the atoms.

CONTENTS—The Historical Development of Modern Physics, from 1900 to Bohr's Theory. Modern Physics from Bohr's Theory to Wave Mechanics. Schrödinger's Equation and Its Solutions in One-dimensional Problems. Average Values and Matrices. The Variation and Perturbation Methods. The Interaction of Radiation and Matter. The Hydrogen Atom. The Central-field Model for Atomic Structure. The Self-consistent-field Method. The Vector Model of the Atom. The Behavior of Angular-momentum Vectors in Wave Mechanics. Antisymmetry of Wave Functions and the Determantal Method. The Elementary Theory of Multiplets. Further Results of Multiplet Theory: Closed Shells and Average Energies. Multiplet Calculations for Light Atoms. Multiplet Calculations for Iron-group Elements. APPENDIX. INDEX.

SLATER—Quantum Theory of Atomic Structure—Volume II

By JOHN C. SLATER, Massachusetts Institute of Technology. *Int'l Series in Pure and App. Physics.*

439 *pp.*, 6 *x* 9, 6 *illus.* (1960).....$13.00*r*

Volume II of a proposed four volume, graduate-level work presenting a broad treatment of the whole quantum theory of atoms, molecules and solids. This second volume carries on from Volume I into more advanced material, covering mainly the modern theory of atomic spectra. Special consideration is given to the Hartree-Fock method, accurate treatment of two-electron atoms, some group theory, advanced vector-coupling theory, Racah's methods, general treatment of multiplets on the basis of those principles, Dirac's electron theory with application to split-orbit coupling, general treatment of intensities of spectral lines, and hyperfine structure. With an extensive bibliography of pertinent literature, this is a valuable reference book or an appropriate text for advanced courses on Theory of Atomic Spectra, or related topics.

CONTENTS—Preface. The Hartree-Fock Method. Accurate Methods of Atomic Calculation. The Application of Group Theory to Atomic Structure. Angular-Momentum Operators and Multiplet Theory. General Multiplet Theory for a Single Configuration. Racah's Method for Complex Spectra. Dirac's Theory of the Electron Spin. Magnetic Behavior of Complex Atoms. Radiation Transition Probabilities. Hyperfine Structure. Appendix. Bibliography. Index.

SLATER—Quantum Theory of Matter

By JOHN C. SLATER, Massachusetts Institute of Technology. *Int'l Series in Pure and App. Physics.*

528 *pp.*, 6 *x* 9, 129 *illus.* (1951)....$8.95*c*

Introduces first the general principles of quantum mechanics, starting from the beginning, presupposing only a moderate knowledge of atomic structure and of mathematical physics. Then it treats the structure of atoms, molecules, and solids, with attention to such properties as atomic spectra, intermolecular forces, "band theory" of solids, electrical conductivity, semiconductors, dielectric and magnetic effects. Its main purpose is to lead as directly as possible into a study of the fundamental properties of matter, as explained by quantum methods.

CONTENTS—Preface. De Broglie Waves and Wave Mechanics. Schrödinger's Equation. Average Values and Matrices. Perturbations and the Action of Radiation. The Hydrogen Atom. The Central Field Model for Atomic Structure. Multiplet Structure. The Hydrogen

Molecule. Interatomic and Intermolecular Forces. The Metallic State. Mechanical, Chemical, and Thermal Properties of Matter. Electrical Conductivity. The Nature of Dielectrics. Magnetism. Appendixes. Index.

HENLEY AND THIRRING—Elementary Quantum Field Theory

By ERNEST HENLEY, University of Washington; and WALTER THIRRING, University of Vienna. *Int'l Series in Pure & App. Physics.*

288 *pp.*, 6 *x* 9, 51 *illus.* (1962).....$8.95*c*

Purpose: to present that part of quantum field theory unobscured by mathematical difficulties, and not requiring a deeper understanding of special relativity. Applications to elementary particles are developed. *Scope:* First the physical basis for field theory is developed, with stress on the conceptual aspects of the field. Observables, invariants, and internal symmetries are discussed. The second part treats the interactions of a quantum field with various static sources. Problems with exact solutions, e.g., the neutral scalar theory, the pair theory, and the Lee model are discussed from both the classical and quantum mechanical points of view. In the third part the mathematical tools and physical insight developed in the first two parts are used to discuss low energy pion physics in detail.

CONTENTS—FREE FIELDS. Introduction. The Harmonic Oscillator. Coupled Oscillators. Fields. Observables. States. Internal Degrees of Freedom. SOLUBLE INTERACTIONS. General Orientation. Static Source. Production of Particles. Pair Theory—Classical. Pair Theory—Quantum Mechanical. Lee Model—States with $Q = \pm 1/2$. Lee Model—States with $Q = -3/2$. PION PHYSICS. Introduction. General Features of the Static Model. The Ground State. Pion Scattering. Properties of the Nucleon. Electromagnetic Phenomena. Nuclear Forces. APPENDIX. INDEX.

Solid State Physics

AMERICAN INSTITUTE OF PHYSICS—Magnetism and Magnetic Materials

Proceedings of the Fourth Conference

Sponsored by the Magnetics Subcommittee of the American Institute of Electrical Engineers Committee on Basic Sciences. Papers presented at the Conference of Magnetism and Magnetic Materials, Philadelphia, Nov., 1958.

332 *pp.*, 8 *x* 10½, *illus.* (1959).....$10.00*c*

These important papers are written by specialists in the fields of physics, chemistry, mathematics, metallurgy, and chemical and electrical engineering. They are concerned with subjects ranging from theoretical to application and development to manufacturing. The primary purpose of this book is to bring together this variety of disciplines and backgrounds, in order to: obtain different points of view on the problems in magnetism, stimulate the field as a whole, and introduce more sophistication and a scientific approach into fields now largely empirical.

CONTENTS—Ferrites. Computer Components. Micromagnetics: Domain Walls. Magnetic Properties of Metals and Alloys. Fine Particles. Amplifiers Microwave Applications. Resonance. Metallurgical Considerations. Fundamental Interactions. Instrumentation. Thin Films. Neutron Diffraction and Irradiation. Garnets and Other Compounds. Anistropy, Other Than in Thin Films.

AMERICAN INSTITUTE OF PHYSICS—Magnetism and Magnetic Materials

Proceedings of the Fifth Conference

Sponsored by the American Institute of Electrical Engineers, in cooperation with the American Physical Society, the Institute of Radio Engineers, the Metallurgical Society of the A.I.M.E. and the Office of Naval Research.

419 *pp.*, 8 *x* 10½, *illus.* (1960).....$12.00*i*

Reports in detail the results of current research in magnetism and magnetic materials. It provides a well-rounded survey of the progress in many areas, helps you more fully understand today's developments in the state of the art, and shows where concepts should be modified in the light of new facts. Over a hundred and fifty articles by eminent scientists and engineers, including work by outstanding authorities from other countries, are included. They describe advances made by workers in physics, chemistry, metallurgy, crystallography, and other fields.

CONTENTS—Garnets. Permanent Magnets. Spin Waves and Magnetostatic Modes. Computers and Switching. Anisotropy. Techniques and Devices. Resonance. Soft Magnetic Materials. Ferrites and Oxides. Magnetic Films. Metals and Alloys. Magnetic Salts. Magnetic Compounds and Neutron Diffractions. Ferrimagnetic Resonance Effects.

AMERICAN INSTITUTE OF PHYSICS—Proceedings of the Sixth Conference on Magnetism and Magnetic Materials

Sponsored by the AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS, and the AMERICAN INSTITUTE OF PHYSICS, In Cooperation with the Institute of Radio Engineers, the Metallurgical Society of the A.I.M.E., and the Office of Naval Research.

408 *pp.*, 8 *x* 10½, 389 *illus.* (1961) $10.00*c*

Wide-ranging results of important new work in the field of magnetism and magnetic materials are reported in this authoritative book by more than 260 specialists. They bring together such diverse disciplines as physics, mathematics, chemistry, metallurgy, ceramics, and electrical engineering to give different points of view on problems of magnetism and to stimulate the field as a whole. Demonstrating the theory and application of new materials, the volume explains important advances, including the application of Mossbauer effect to magnetic studies, and ferro and ferrimagnetic phenomena. Included is an integrated summary of some of the results and physical ideas contained in 16 experimental and theoretical papers on ferromagnetic resonance.

CONTENTS—Ordered Spin Systems. Computer Devices. Spin Configurations. Metallic Films. Nuclear Hyperfine Fields. High Coercive Materials. Exchange Interactions and Nonlinear Microwave Processes. Magnetization Processes and Fine Particles. Anisotropy. Domain Walls and Domain Wall Motion. Microwave Devices. Metals and Alloys. Soft Magnetic Materials. Oxides.

AZÁROFF AND BROPHY—Electronic Processes in Materials

By LEONID V. AZÁROFF, Illinois Institute of Technology; and JAMES J. BROPHY, IIT Research Institute.

462 *pp.*, 6 *x* 9, 276 *illus.* (1963)....$10.75*c*

In treating the various topics in this text, the authors describe applications to all types of materials without attempting an exhaustive consideration for the different materials themselves, beyond a few illustrative examples. The book emphasizes the basic principles and theory for a wide variety of phenomena and discusses the relations between external forces and materials, as well as the interactions within the material in response to these forces. This material is suitable for junior and senior undergraduate courses and for graduate courses in Metallurgy, Electrical Engineering, Physics, and Materials Science.

CONTENTS—*Preface.* Structure of Crystals. Diffraction of X-Rays. Quantum Mechanics. Atomic Bonding. Statistical Mechanics. Free-electron Theory. Zone Theory. Theory of Semiconductors. Semiconducting Materials. Semiconductor Devices. Electron Emission. Dielectric Processes. Magnetic Processes. Optical Processes. *Appendix 1.* Physical Constants. *Appendix 2.* Systems of Units. *Appendix 3.* Atomic Radii. *Appendix 4.* Periodic Chart of the Elements. *Index.*

READ—Dislocations in Crystals

By W. T. READ, JR., Bell Telephone Laboratories, Inc. *Int'l Series in Pure & App. Physics.*

228 *pp.*, 6 *x* 9, 77 *illus.* (1953).....$5.00*r*

Here is a specialized text and reference in a very important phase of solid state physics. This book explains what dislocations are, what they do, and how they produce effects that one can study experimentally. The discussion is based on simple physical arguments, and centers around numerous drawings. Emphasis is on a systematic introductory account of what is definitely known about dislocations. The book is intended for physical metallurgists and physicists interested in the phenomena associated with imperfections in the crystal structure.

CONTENTS—Why Dislocations? Part I. THEORY. Some Simple Examples. Imperfections in Crystals. Dislocations in Motion. Dislocations under Stress. Multiplication and Intersection of Dislocations during Deformation. Partial Dislocations. The Stress around a Dislocation. Forces between Dislocations. Part II. APPLICATIONS. Application to Crystal Growth. Simple Grain Boundary. General Grain Boundaries. Measurements of Grain Boundary Energy. The Motion of a Grain Boundary.

SACHS—Solid State Theory

By MENDEL SACHS, Boston Univ.

376 *pp.*, 6 *x* 9, 99 *illus.* (1963).....$10.75*c*

Emphasizes the role played by the symmetry of crystal lattices in the determination of many of the physical properties of solids. This aspect of solid state physics enables one to determine many of the qualitative features of solid state properties before numerical computations begin. In general, the book exploits a few basic principles in developing in detail some of the general features of solids, rather than trying a wide area in less detail.

CONTENTS—An Introduction to the Solid State. The Symmetry Properties of Crystal Lattices. The Ionic Crystal. Crystal Field Theory. The Magnetic Properties of Crystals. Free-electron Theory of Metals. Quasi-free-electron Theory: Electrons in a Periodic Lattice. Quasi-free-electron Theory: Electrons in a Three-dimensional Periodic Lattice. Quasi-free-electron Theory: Applications. The Cohesive Energy of Conducting Solids. Appendix.

SEITZ—The Modern Theory of Solids

By FREDERICK SEITZ, University of Illinois. *Int'l Series in Pure & App. Physics.*

698 *pp.*, 6 *x* 9, *illus.* (1940).....$12.50*r*

This book will be useful to students of physics and chemistry, experimental physicists and chemists, engineers and metallurgists, and theoretical physicists interested in that phase of solid bodies that deals with electronic structure.

CONTENTS—Empirical Classification of Solid Types. The Classical Theory of Ionic Crystals. The Specific Heats of Simple Solids. The Free-electron Theory of Metals and Semi-conductors. Quantum Mechanical Foundation. Approximate Treatment of the Many-body Problem. Molecular Binding. The Band Approximation. Approximational Methods. The Cohesive Energy. The Work Function and the Surface Barrier. The Excited Electronic States of Solids. The Electronic Structure of the Five Solid Types. The Dynamics of Nuclear Motion; Phase Changes. Theory of Conductivity. The Magnetic Properties of Solids. The Optical Properties of Solids. Index.

SLATER—Quantum Theory of Molecules and Solids

Electronics of Molecules Volume I

By JOHN C. SLATER, MIT. *Int'l Series in Pure & App. Physics.*

512 *pp.*, 6 *x* 9, 64 *illus.* (1963).....$12.50*c*

The first volume of a multi-volume series which will cover in an advanced treatment the entire field of modern solid state theory. Covers the theory of the relatively simple molecules for which fairly complete theoretical discussions are available. The author has tried to develop the general methods of handling molecular theory, including the nature of the chemical bond and the symmetry of molecules, including a thorough discussion of group theory.

CONTENTS—The Hydrogen Molecular Ion. Lcao and Variation Methods and the Virial Theorem, for H_2^+. The Heitler-London Method for the Hydrogen Molecule. The Molecular-orbital Method for Hydrogen and Its Extensions. The Method of Molecular Orbitals. Homonuclear Diatomic Molecules. Heteronuclear Diatomic Molecules. Group Theory and the Symmetry of Wave Functions. Bloch's Method for the Construction of Symmetry Orbitals. The Ammonia Molecule. The Methane and Water Molecules. The Ethylene and Benzene Molecules. Appendix—The H_2^+ Problem. Bibliography. Index.

WERT—Physics of Solids

By CHARLES WERT and ROBB THOMSON, Univ. of Illinois. *Series in Mtl. Sc. & Engg.*

In Press

An introductory textbook in solid state physics for advanced undergraduate engineering students. Emphasizes the electrical, dielectric, and magnetic properties of solids, and attempts to carry over into engineering the thorough, careful, and analytical attitude of the physicist. No prior course in solid state physics or materials science is required.

CONTENTS—The Geometry of Perfect Crystals. Imperfections in Crystals. Diffusion. Metallic Solutions and Compounds. Dislocations. The Physics of Submicroscopic Particles Quantum Mechanics. Atomic Physics. The Electronic States in Solids. The Basic Solid Types. Transport Properties and Specific Heat of Metals. The Physical Properties of Semiconductors. Semiconductor Devices. Ionic Crystals. Surface Properties. Macroscopic Electromagnetic Behavior of Solids. Static Dielectric Behavior. Dielectric Loss. Diamagnetism and Paramagnetism. Ferromagnetism—Physical Basis.

Theoretical and Mathematical Physics

GOERTZEL AND TRALLI—Some Mathematical Methods of Physics

By GERALD GOERTZEL, Nuclear Development Corporation of America, and NUNZIO TRALLI.

300 *pp.*, 6 *x* 9, *illus.* (1960).....$9.50*r*

*McG-H Paperbacks Ed.**

Designed primarily for physicists, this work presents a common set of mathematical techniques useful in such fields as quantum mechanics, acoustics, electromagnetic theory, reactor physics, etc. No attempt is made to cover the entire field of mathematical methods of physics. Instead, the authors seek to give nonmathematicians a well-rounded and thorough indication of the basic concepts involved in the study of linear systems.

CONTENTS—PART I. SYSTEMS WITH A FINITE NUMBER OF DEGREES OF FREEDOM. Formulation of the Problem and Development of Notation. Solution for Diagonalizable Matrices. The Evaluation of a Function of a Matrix for an Arbitrary Matrix. Vector Spaces and Linear Operators. The Dirac Notation. Periodic Structures. PART II. SYSTEMS WITH AN INFINITE NUMBER OF

DEGRESS OF FREEDOM. The Transition to Continuous Systems. Operators in Continuous Systems. The Laplacian (∇^2) in One Dimension. The Laplacian (∇^2) in Two Dimensions. The Laplacian (∇^2) in three Dimensions. Green's Functions. Radiation and Scattering Problems. PART III. APPROVED METHODS. Perturbation of Eigenvalues. Variational Estimates. Iteration Procedures. Construction of Eigenvalue Problems. Numerical Procedures. APPENDICES. INDEX.

** Available only through your local bookstore.*

HOUSTON—Principles of Mathematical Physics

By W. V. HOUSTON, Rice Institute. *Int'l Series in Pure & App. Physics.* Second Edition.

763 *pp.*, 6 *x* 9, 42 *illus.* (1948).....$10.50*c*

A text for senior and graduate students, designed to give a working knowledge of the fundamental methods of mathematical physics. A knowledge of elementary physics, analytical geometry, and calculus is assumed. Problems form an integral part of the text, presenting many important results. In the second edition, the subject matter, particularly the section on electricity and magnetism, has been expanded. Illustrative drawings have been added.

CONTENTS—Elementary Differential Equations. The Mechanics of Particles. Linear Equations of Order Higher than the First. Mechanics of Vibrating Particles. Calculus of Variations. Hamilton's Principle. Theory of Vibrating Systems. Vector Analysis. Dynamics of Rigid Bodies. Thermodynamics. Statistical Mechanics. The Vector Field. Electrostatics. Magnetostatics and the Interaction of Steady Currents. The Electromagnetic Field. The Restricted Theory of Relativity. Index.

MORSE AND FESHBACH—Methods of Theoretical Physics

By PHILIP M. MORSE and HERMAN FESHBACH, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.* Two volumes sold separately.

1978 *pp.*, 6 *x* 9 (1953).....Part I $16.00*c*
Part II $16.00*c*

This is an extremely comprehensive and up-to-date treatment of the mathematical techniques used in theoretical physics at the present time. This book is particularly concerned with those techniques used in the calculation of fields: gravitational, electromagnetic, acoustical, quantum-mechanical, thermal, and elastic, among others. The treatment shows how to attack new problems in this subject, how to analyze them, what techniques might be applied, and what the limitations of these techniques may be. The work is also arranged to be useful as a reference. Formulas and outlines are given at the end of each chapter, and numerical tables are included at the end of the book.

CONTENTS—PART I. TYPES OF FIELDS. EQUATIONS GOVERNING FIELDS. FIELDS AND THE VARIATIONAL PRINCIPLE. FUNCTIONS OF A COMPLEX VARIABLE. ORDINARY DIFFERENTIAL EQUATIONS. BOUNDARY CONDITIONS AND EIGENFUNCTIONS. GREEN'S FUNCTIONS. INTEGRAL EQUATIONS. Index.

CONTENTS—PART II. APPROXIMATE METHODS. SOLUTIONS OF LAPLACE'S AND POISSON'S EQUATIONS. THE WAVE EQUATION. DIFFUSION. WAVE MECHANICS. VECTOR FIELDS. APPENDIX. Glossary of Symbols Used. Tables. Bibliography. Index.

SLATER—Introduction to Chemical Physics

By JOHN C. SLATER, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

521 *pp.*, 6 *x* 9, *illus.* (1939).....$10.50*c*
*McG-H Paperbacks Ed.**

A discussion of chemical physics which intends to bring the material on the subject into reasonable compass and to make it intelligible to a reader with a knowledge of calculus and differential equations, but unfamiliar with the more difficult branches of mathematical physics.

CONTENTS—Part I: *Thermodynamics, Statistical Mechanics, and Kinetic Theory.* Heat as a Mode of Motion. Thermodynamics. Statistical Mechanics. The Maxwell-Boltzmann Distribution Law. The Fermi-Dirac and Einstein-Bose Statistics. The Kinetic Method and the Approach to Thermal Equilibrium. Fluctuations. Part II: *Gases, Liquids, and Solids. Thermodynamic and Statistical Treatment of the Perfect Gas and Mixtures of Gases.* The Molecular Structure and Specific Heat of Polyatomic Gases. Chemical Equilibrium in Gases. The Equilibrium of Solids, Liquids, and Gases. Van Der Waals' Equation. The Equation of State of Solids. Debye's Theory of Specific Heats. The Specific Heat of Compounds. The Liquid State and Fusion. Phase Equilibrium in Binary Systems. Phase Changes of the Second Order. Part III: *Atoms, Molecules, and the Structure of Matter.* Radiation and Matter. Ionization and Excitation of Atoms. Atoms and the Periodic Table. Interatomic and Intermolecular Forces. Ionic Crystals. The Homopolar Bond and Molecular Compounds. Organic Molecules and Their Crystals. Homopolar Bonds in the Silicates. Metals. Thermionic Emission and the Volta Effect. The Electronic Structure of Metals.

** Available only through your local bookstore.*

SLATER AND FRANK—Introduction to Theoretical Physics

By J. C. SLATER and NATHANIEL H. FRANK, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Physics.*

576 *pp.*, 6 *x* 9 (1933).....$9.95*c*

The aim of this book is to teach mastery of the tools by which facts have been discovered and by which future discoveries will be made.

CONTENTS—Power Series; Power Series Method for Differential Equations; Power Series and Exponential Methods for Simple Harmonic Vibrations; Damped Vibrations, Forced Vibrations, and Resonance; Energy; Vector Forces and Potentials; Lagrange's Equations and Planetary Motion; Phase Space and the General Motion of Particles; The Motion of Rigid Bodies; Coupled Systems and Normal Coordinates; The Vibrating String, and Fourier Series; Normal Coordinates and the Vibrating String; The String with Variable Tension and Density; The Vibrating Membrane; Stresses, Strains, and Vibrations of an Elastic Solid; Flow of Fluids; Heat Flow; Electrostatics, Green's Theorem, and Potential Theory; Magnetic Fields, Stokes's Theorem, and Vector Potential; Electromagnetic Induction and Maxwell's Equations; Energy in the Electromagnetic Field; Reflection and Refraction of Electromagnetic Waves; Electron Theory and Dispersion; Spherical Electromagnetic Waves; Huygens' Principle and Green's Theorem; Fresnel and Fraunhofer Diffraction; Waves, Rays, and Wave Mechanics; Schrodinger's Equation in One Dimension; The Correspondence Principle and Statistical Mechanics; Matrices; Perturbation Theory; The Hydrogen Atom and the Central Field; Atomic Structure; Interatomic Forces and Molecular Structure; Equation of State of Gases; Nuclear Vibrations in Molecules and Solids; Collisions and Chemical Reactions; Electronic Interactions; Electronic Energy of Atoms and Molecules; Fermi Statistics and Metallic Structure; Dispersion, Dielectrics, and Magnetism. Index. References.

Nuclear Science and Engineering

McGRAW-HILL SERIES IN NUCLEAR ENGINEERING

(Series in Nuclear Engg.)

Thomas H. Pigford, Consulting Editor, University of California, Berkeley

Benedict and Pigford—Nuclear Chemical Engineering
Bonilla—Nuclear Engineering
Ellis—Nuclear Technology for Engineers
El-Wakil—Nuclear Power Engineering
Hoisington—Nucleonics Fundamentals
Meghreblian and Holmes—Reactor Analysis
Price—Nuclear Radiation Detection
Schultz—Control of Nuclear Reactors and Power Plants
Stephenson—Introduction to Nuclear Engineering, 2 Ed.

NATIONAL NUCLEAR ENERGY SERIES

(Nat. Nuclear Energy Series)

Bloom—Histopathology of Irradiation from External and Internal Sources, Div. IV, Vol. 221
Guthrie and Wakerling—Vacuum Equipment and Techniques, Div. I, Vol. 1
Lustman and Kerze—Metallurgy of Zirconium, Div. III, Vol. 4
Monk and McCorkle—Optical Instrumentation, Div. IV, Vol. 8
Murphy—Production of Heavy Water, Div. III, Vol. 41
Rodden—Analytical Chemistry of the Manhattan Project: Uranium and Thorium, Div. VIII, Vol. 1
Slesser and Schram—Preparation, Properties, and Technology of Fluorine and Organic Fluoro Compounds, Div. III, Vol. 1

NUCLEAR ENGINEERING HANDBOOK

Edited by HAROLD ETHERINGTON, Nuclear Power Department, Allis-Chalmers Manufacturing Co. Prepared by a Staff of Specialists.
1882 *pp.*, 6 *x* 9 (1958) $16.00*hb*

Provides a comprehensive coverage of nuclear engineering, presented at a practical level for engineers interested in industrial and other useful applications of nuclear energy. Nuclear theory, nuclear engineering principles and techniques, and helpful reference material are given with thoroughness and detail.

SECTIONS—Formulas, Mathematical Tables, Conversion Tables, and Other Reference Data. Compilation of Nuclear Data. Review of Higher Level Mathematics. Review of Nuclear Physics. Experimental Techniques, Including Instrumentation, Measurements, and Engineering Testing. Neutron Diffusion and Reactor Theory: Methods and Formulas for Calculation of Reactors, with Numerical Examples. Practice and Method of Calculation of the Control of Reactors. Principles and Methods of Calculation of Reactor Thermodynamics. Reactor Materials. Chemistry and Chemical Engineering as Applied to Nuclear Technology. Nuclear Power Plant Selection. Mechanical Design and Operation of Reactors. Manufacture and Use of Isotopes.

Nuclear Science and Engineering

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—Nuclear Reactor Plant Data

Compiled by the Technical Data Committee of the American Society of Mechanical Engineers.

These two comprehensive volumes present both detailed technical data and general information about most of the world's nuclear reactor plants. They cover 32 reactors designed for the production of electric power as well as 95 research and test reactors. They include plants of 22 nations in North America, South America, Europe, Asia, and Australia. Specific data are arranged on standardized page forms to facilitate the finding and comparison of pertinent facts.

Volume I—Power Reactors 1959

128 *pp.*, 8½ *x* 11, 31 *illus.* (1959) $3.75*r*

All domestic reactors which have reached a stage permitting design data to be gathered are included, plus a substantial number of foreign reactors designed for the production of electric power. Only authoritative information obtained directly from the design agencies responsible for each reactor is included. For each plant information is presented under these 12 headings: General. Power Data. Nuclear Data. System Flow Diagram. Fuel Element and Blanket. Reactor. Reactor Control. Primary Coolant System. Secondary Coolant System. Steam System. Description of Plant Containment. Special Features.

Volume II—Research and Test Reactors

297 *pp.*, 8½ *x* 11, 98 *illus.* (1959)...$8.75*i*

Here is specific information on 53 domestic test reactors and 42 foreign ones. Some of the data were only recently declassified so they could be published in this volume. Power output for the reactors described ranges from zero watts to over 175,000 kilowatts, with reactor facility costs from a few thousand dollars to over $50 million. Data for each plant are arranged under these nine standardized headings: General. Fuel. Reactor, Primary Coolant. Nuclear Data. Research Facilities. Remarks. Bibliography. Diagram of Reactor Facility.

CHASE—Nuclear Pulse Spectrometry

By ROBERT L. CHASE, Brookhaven National Laboratory.

226 *pp.*, 6 *x* 9, 119 *illus. and tables* (1961) $9.75*i*

Explains electronic systems, circuits, and methods used in counter and ionization chamber devices, providing an understanding of the operation, capabilities, and use of today's equipment. Treats such topics as nuclear radiation detectors, pulse amplifiers, pulse-height and pulse-time distribution analyzers, coincidence systems, data storage devices, multidimensional instruments, and others. Brings together scores of useful diagrams and illustrations, a wide selection of circuits, tables of engineering data, practical examples, and additional helps for easy reference.

CONTENTS—Radiation Detectors and Their Characteristics. Linear Amplifiers. Single-channel Pulse-height Analyzers. Multichannel Pulse-height Analyzers I. Multichannel Pulse-height Analyzers II. Photographic Pulse-height Analyzers. Time Analyzers. Multidimensional Analysis. Counting Losses.

ELLIS—Nuclear Technology for Engineers

By R. HOBART ELLIS, Associate Editor, *Nucleonics.*

275 *pp.*, 6 *x* 9, 119 *illus.* (1959).....$9.50*c*

A broad introduction to the entire nuclear-engineering field. Sections cover the nature of the nucleus, radioactivity and radiation, detection of radiation, radionuclides as tracers, high-level radiation sources, effects and uses of radiation, and radiation dose and its measurement. The book gives a useful treatment of fission and chain reaction, using fission reactors, and fusion technology.

EL-WAKIL—Nuclear Power Engineering

By M. M. EL-WAKIL, University of Wisconsin. *Series in Nuclear Engg.*

576 *pp.*, 6⅜ *x* 9¼, 287 *illus.* (1962)..$15.00*c*

The primary consideration of this book is the engineering aspects of nuclear power. Part one provides a thorough treatment of nuclear and reactor physics as a coordinated phase of the engineering aspects of power reactor design. With this as basic review and foundation, part two goes on to consider the fundamentals of thermal design and processes occurring in nuclear reactor cores and power plants, from the points of view of thermodynamics, heat transfer, and fluid flow. Part three treats in detail the fundamentals of the more prominent types of power reactors and their power plants. Descriptions of some nuclear reactors and power plants which are currently in operation are given as an aid to the understanding of the concepts involved. The book is designed to provide a more complete treatment of the subject of reactor core and reactor power plant engineering design and operation for students in all engineering disciplines, and for those practicing engineers and physicists already engaged in the nuclear industry.

CONTENTS—Preface. INTRODUCTION TO NUCLEAR ENGINEERING. Nuclear Energy: The Primary Source of Power. Atomic and Molecular Structure. Atomic and Nuclear Reactions. Reactions Involving Neutrons. Neutron Flux Distribution in Cores. Time Variations in Reactor Behavior. FUNDAMENTAL CONCEPTS OF NUCLEAR POWER. Some Thermodynamic Aspects of Nuclear Power. Reactor Heat Generation and Removal: I. Reactor Heat Generation and Removal: II. Reactor Coolants: Heat Transfer and Fluid Flow. Heat Transfer and Fluid Flow with Change in Phase. NUCLEAR REACTORS AND POWER PLANTS. The Boiling Reactor. Boiling-reactor Power Plants. Pressurized-water Reactors and Power Plants. Gas-cooled Reactors. Gas-cooled-reactor Power Plants. Organic-cooled and -moderated Reactors. Liquid-metal-cooled Reactors and Power Plants. Fluid-fueled Reactors and Power Plants. Appendixes.

GUTHRIE AND WAKERLING—Vacuum Equipment and Techniques

By A. GUTHRIE and R. K. WAKERLING. Div. I, Vol. 1—*Nat. Nuclear Energy Series.*

264 *pp.*, 6 *x* 9 (1949).....$4.75*r*

Includes a compilation of the observations made in the process of developing high vacuum equipment for use in electromagnetic separation plants. Discusses the use of the extremely sensitive vacuum analyzer and helium leak detector developed for use in the project. Frequent references to the published literature in the field are found throughout the book. Companion volume to the authors' *The Characteristics of Electrical Discharges in Magnetic Fields.*

CONTENTS—Foreword. Preface. Fundamental Considerations in Vacuum Practice. Elements of the Vacuum System. Vacuum Gauges. Vacuum Materials and Equipment. Leak-detection Instruments and Techniques. Appendix. Index.

HOISINGTON—Nucleonics Fundamentals

By DAVID B. HOISINGTON, United States Naval Postgraduate School. *Series in Nuclear Engg.*

410 *pp.*, 6 *x* 9, 162 *illus.* (1959)....$9.95*c*

CONTENTS—Preface. Matter and Energy. Atomic Structure. Nuclear Structure. Radioactivity. Induced Nuclear Transformations. Particle Accelerators. Radiation Protection. Instrumentation. Nuclear Fission—The Chain Reaction. Reactor Principles. Research Reactors. Nuclear Power. Thermonuclear Power. Nuclear Explosives. Production of Nuclear Materials.—Isotope Separation. Appendix 1—Glossary. Appendix 2—Notation. Appendix 3—Physical Constants and Equivalent Units. Appendix 4—Atomic and Nuclear Data. Appendix 5—Answers to Problems. Index.

MEGHREBLIAN AND HOLMES—Reactor Analysis

By ROBERT V. MEGHREBLIAN, Jet Propulsion Laboratory, Pasadena, and DAVID K. HOLMES, Oak Ridge National Laboratory. *Series in Nuclear Engg.*

808 *pp.*, 6 *x* 9, 202 *illus.* (1960)....$19.50*c*

Here is a complete and consistent development of the mathematical basis of reactor theory with special emphasis on the analytical models which have proved to be most useful for studying the behavior of neutron chain reactors. Though the presentation is directed primarily at the first and second year graduate student, the major chapters are so organized, that the reader can acquire a comprehensive undergraduate background in reactor analysis by limiting attention to the early sections of each chapter. In developing the mathematical basis for each of the principal topics, a special effort has been made to provide several analytical methods for treating the relevant physical phenomena.

CONTENTS—Introduction. Probability Concepts and Nuclear Cross Sections. Multiplication Constant and Neutron Flux. Slowing-Down Process in the Infinite Medium. Diffusion Theory: The Homogeneous One-Velocity Reactor. Fermi Age Theory: The Homogeneous Multivelocity Reactor. Transport Theory. Reflected Reactors. Reactor Kinetics. Heterogeneous Reactors. Control-Rod Theory. Hydrogeneous Systems. Perturbation Theory.

BLOOM—Histopathology of Irradiation from External and Internal Sources

Edited by WILLIAM BLOOM. Div. IV, Vol. 22I—*Nat. Nuclear Energy Series.*

808 *pp.*, 6 *x* 9 (1948).....$12.00*r*

This book is a summary of the work done from April, 1943, to October, 1945. The material is described in the following general plan: For each major organ or tissue, the effects of one type of total-body irradiation from an external source are described in detail as a baseline, and deviations from this base-line are considered in reporting the effects of the other externally applied radiations. A similar procedure is followed for the internally administered substances.

CONTENTS—Introduction. Materials and Methods. The Cell. The Skin. Bone. Bone Marrow. The Spleen. Lymph Node and Intestinal Lymphatic Tissue. The Thymus. The Gastrointestinal Tract. Structures Accessory to the Gastrointestinal Tract. The Testis. The Ovary. The Kidney. The Lung. The Vascular System. The Adrenal. The Nervous System. Summary. Appendix. Bibliography. Alphabetical List of Experiments. Index.

SLESSER AND SCHRAM—Preparation, Properties, and Technology of Fluorine and Organic-Fluoro Compounds

Edited by CHARLES SLESSER and STUART R. SCHRAM. Div. VII, Vol. 1—*Nat. Nuclear Energy Series.*

868 *pp.*, 6 *x* 9, *illus.* (1951).....$13.00*r*

The primary purpose of this outstanding volume is to present significant findings in the fields of fluorine and fluorocarbon technology. Although the papers making up this volume represent the work of many authors, each paper is organized to treat its particular subject under the following headings: Introduction, Discussion, Experimental Work, and Summary. This organization effects a well-unified and coordinated treatment. The two phases of work, industrial-scale operations and academic research and development, are offered.

CONTENTS—Generation of Fluorine. Handling of Fluorine. Partial Fluorination of Organic Compounds by Replacement of Fluorine. Realization of Perfluorocarbons. Preparation and Properties of Chlorotrifluoroethylene Polymer. Miscellaneous Investigations.

LUSTMAN AND KERZE—The Metallurgy of Zirconium

Edited by BENJAMIN LUSTMAN and FRANK KERZE, JR. Div. VII, Vol. 4—*Nat. Nuclear Energy Series.*

776 *pp.*, 6 *x* 9, *illus.* (1955).....$11.50*r*

Account of the occurrence, reduction, refining, properties, and uses of zirconium and zirconium alloys. The treatment, in general, consists of discussion of properties of the pure element, followed by treatment of alloy properties, and finally by discussion of properties of commercial materials.

CONTENTS—Zirconium and Its Application to Nuclear Reactors. Application of Zirconium for Other Uses. Occurrence of Zirconium. Zirconium Production Methods. Iodine-Decomposition Process for Production of Zirconium. Melting and Shaping of Zirconium and Its Alloys. Joining and Finishing of Zirconium. Physical Metallurgy of Zirconium and Its Alloys. Zirconium Alloy Systems. Mechanical Properties of Zirconium and Its Alloys. Corrosion of Zirconium and Its Alloys. Analytical Chemistry of Zirconium. Appendix A: Metallography of Zirconium. Appendix B: Industrial Hygiene and Safety. Appendix C: Engineering Data Sheets. Appendix D: Glossary. Appendix E: Contributing Authors. Name Index. Subject Index.

RODDEN—Analytical Chemistry of the Manhattan Project

Uranium and Thorium

By CLEMENT J. RODDEN. Div. VIII, Vol. 1—*Nat. Nuclear Energy Series.*

748 *pp.*, 6 *x* 9, *illus.* (1950).....$11.50*r*

An integrated analytical text covering the determination of, and analysis of, important materials such as uranium.

CONTENTS—Analytical Chemistry of Elements Studied on the Manhattan Project: Uranium; Thorium; Nitrogen; Silicon; Fluorine and Fluorocarbons; Carbon, Hydrogen, and Oxygen; Chlorine, Bromine, and Iodine; Sulfur, Selenium, and Tellurium; Phosphorus, Arsenic, Antimony, and Bismuth; Sodium, Potassium, Rubidium, and Cesium; Beryllium, Magnesium, Calcium, Strontium, Barium, and Radium; Germanium, Tin, and Lead; Aluminum, Gallium, Indium, and Thallium; Zinc, Cadmium, and Mercury; Copper, Silver, and Gold; Iron, Cobalt, and Nickel; Manganese, Technetium, and Thenium; Chromium, Molybdenum, and Tungsten; Vanadium, Columbium, and Tantalum; Titanium, Zirconium, and Hafnium; The Platinum Metals; Scandium, Yttrium, and the Rare Earths; Special Analytical Laboratory Equipment and Techniques; Electrolytic Separation Methods; Photometric Methods; Electrometric Methods; Spectrochemical Methods; Low-pressure Methods; Radiochemical Analytical Methods; Other Methods; Index.

UNITED STATES ATOMIC ENERGY COMMISSION—Research Reactors

Prepared by the U.S. ATOMIC ENERGY COMMISSION.

460 *pp.*, 7⅞ *x* 10¼, *illus.* (1955).....$6.50*i*

Detailed descriptions, complete with selected design drawings, of six types of U.S. research reactors now in use. Includes three types of light-water-moderated reactors, one hydrocarbon-moderated reactor, one heavy-water-moderated reactor, and one graphite-moderated reactor. The descriptive material includes selected design drawings and is arranged generally as follows: general design features, core design and fuel handling, cooling system (where applicable), control and instrumentation, shielding, experimental facilities, and operating characteristics.

UNITED STATES ATOMIC ENERGY COMMISSION—Chemical Processing and Equipment

Prepared by the U.S. ATOMIC ENERGY COMMISSION.

302 *pp.*, 7⅞ *x* 10¼, *illus.* (1955).....$6.00*i*

Covers the problem of the safe handling of highly radioactive materials. The section on chemical processing consists of a description of the process and engineering design features of a plant system designed to reclaim highly enriched uranium from irradiated fuel elements made of an aluminum-clad alloy of enriched uranium and aluminum. It includes flow sheets, plant-arrangement drawings, and illustrations of key equipment items. The second section is a catalog of equipment and tools which have been developed or adapted for handling laboratory quantities of highly radioactive materials. Approximately 125 items are described, ranging from complicated remote-viewing systems to simple manipulative devices.

UNITED STATES ATOMIC ENERGY COMMISSION—Neutron Cross Sections

Prepared by the U.S. ATOMIC ENERGY COMMISSION.

363 *pp.*, 15¾ *x* 10¼, *illus.* (1955)..$12.00*i*

Presents complications of neutron cross section data affecting reactor design. Includes a table of thermal-neutron cross-section measurements, including values for total cross section, absorption cross section, scattering cross section, and, where applicable, fission cross section, and a series of graphs in which cross-section measurements for individual isotopes are plotted as a function of neutron energy. Here the data reported are primarily total cross-section values.

BENEDICT AND PIGFORD—Nuclear Chemical Engineering

By MANSON BENEDICT and THOMAS PIGFORD, Massachusetts Institute of Technology. *Series in Nuclear Engg.*

572 *pp.*, 6 *x* 9, 171 *illus.* (1957)....$11.50*c*

Combines an account of scientific and engineering principles with a description of materials and processes of importance in nuclear chemical technology. References are provided for readers who wish more detailed information about the topics treated in each chapter. A series of appendices lists nuclear constants, conversion factors, and nuclear data for use in engineering design problems.

CONTENTS—Chemical Engineering Aspects of Nuclear Power. Nuclear Reactions. Fuel Cycles in Thermal Nuclear Reactors. Production of Uranium Feed Materials. Zirconium, Thorium, and Beryllium. Solvent Extraction of Metals. Properties of Irradiated Fuel. Separation of Reactor Products. Uses of Stable Isotopes and Methods of Isotope Separation. Principles of Isotope Separation. Separation of Isotopes of Light Elements. Separation of Isotopes of Heavy Elements. Appendices.

BONILLA—Nuclear Engineering

By CHARLES F. BONILLA, Columbia University; Brookhaven National Laboratory. *Series in Nuclear Engg.*

625 *pp.*, 6 *x* 9, 227 *illus.* (1957).....$12.50*c*

The purpose of this unusually complete text and reference book is to give the basic principles of the chief engineering disciplines involved in the design of nuclear reactor cores and power plants. Twelve experts in various fields of engineering and science present the fundamentals briefly and clearly, with enough illustrations and advanced specific analyses to make the book valuable to the working design engineer as well as to the student. CONTENTS—Introduction. Nuclear Particles. Nuclear Physics. Particle Detection. Basic Concepts of Radiation Protection. Elementary Reactor Physics. Shielding of Power Reactors. Fluid Flow. Heat Removal. Metallurgy of Uranium and Uranium Alloys. Thermal Stress Analysis and Mechanical Design, Instrumentation and Control. Power Generation. Nuclear Reactor Types. Legal Aspects of Nuclear Power. Appendixes. Physical Properties of Molten Metals. Physical Properties of Saturated Water and Steam. Extrapolated Water Data at 5000 Psi. Physical Properties of Heavy Water D_2O. Thermal Properties of Solids. Vapor Pressure of Metals. Approximate Thermal Emissivity of Nuclear Reactor Constituents. Availability of AEC Documents. Initials of Reports, Journals, Laboratories, etc. Costs of Nuclear Materials and Processes. Series Expansions. Cross-sections of Fuel Elements. Tabulation of Reactors and Principal Data. Accumulation of Long-lived Fission Products. Fission Cross-section of U^{235}.

KOPELMAN—Materials for Nuclear Reactors

Edited by BERNARD KOPELMAN, Beryllium Corp., Reading, Pa.

424 *pp.*, 6 *x* 9, 168 *illus. and tables* (1959) $12.00*r*

A systematic and comprehensive treatment of the atomic fuel cycle and of the preparation, properties, and behavior of the important materials in reactors. Describes the beneficiation, purification, and conversion to metal or oxide of uranium and thorium ores, and their fabrication into several prominent types of fuel elements. Such major topics as testing and evaluation of fuel elements; stability or instability of the fuel to irradiation; and chemical processing of the spent fuel to recover the unburned portion, are clearly discussed. Also covered are beryllium and zirconium, moderating materials, coolants and their effect on corrosion, shielding materials, and radiation damage to structural as well as fuel materials. The book is practical throughout, discussing theory where necessary for a complete understanding of the topic. Included is a large chart highlighting the interaction of radiation with matter.

CONTENTS—Extractive Metallurgy of Reactor Materials. Characteristics of Fuel Element Materials. Fuel Element Fabrication. Fuel Element Testing. Radiation Effects. Fluid Materials. Reprocessing Spent Fuel Elements. Moderator Materials and Their Fabrication. Shielding Materials and Their Fabrication. Control Rods and Their Fabrication.

MILLS, BIEHL, AND MAINHARDT—Modern Nuclear Technology

A Survey for Industry and Business

Edited by MARK M. MILLS, deceased, ARTHUR T. BIEHL, University of California, Berkeley, MB Associates, Danville, California, and ROBERT MAINHARDT, MB Associates, Danville, California. Coordinator, RAPHAEL J. JAFFE. With an Introduction by EDWARD TELLER.

344 *pp.*, 6 *x* 9, *illus.* (1960).....$9.95*i*
*McG-H Paperbacks Ed.**

A number of specialists present on a management level the fundamentals of nuclear engineering, in order to help management personnel understand some of its problems. Much emphasis is placed on the "new nuclear engineering vocabulary." As practiced today, nuclear engineering uses a confusing set of units and introduces some new words. A glossary of the new vocabulary is included. The material contained in this book is, for the most part, the result of a series of lectures given under the Engineering Extension Program of the University of California in Berkeley during the summers of 1956 and 1957.

CONTENTS—An Informal History of Atomic Energy, by Edward Teller. NUCLEAR ENERGY—BASICS. Modern Concepts of Physics, by E. Richard Cohen. Fundamental Principles of Nuclear Reactors, by Arthur T. Biehl. Introduction to Power Reactors, by Donald H. Imhoff. Breeder and Converter Reactors—the Regeneration of Fissionable Fuel, by George Safonov. Production and Processing of Nuclear Materials, by Thomas H. Pigford. Applications of Computers to Nuclear Problems, by Sidney Fernbach. NUCLEAR ENERGY—APPLICATIONS. Nuclear Technology as an Industry, by Robert Mainhardt. Economics of Nuclear Power, by James A. Lane. Introduction to Research Reactors, by Ronald R. Henley. Report on Shippingport Atomic Power Station, by J. C. Rengel. Sodium-Graphite and Organic-Moderated Reactors, by Robert L. Carter. Design and Construction of Nuclear Facilities, by Patrick J. Selak. Industrial Uses of Radioisotopes, by Jerome Kohl. NUCLEAR ENERGY—SAFETY. Nuclear Radiation Measurements and Shielding, by Burton J. Moyer. Medical Aspects of Radiation, by John W. Gofman. REACTOR HAZARDS, by Mark M. Mills. NUCLEAR ENERGY—THE FUTURE. Controlled-fusion Power, by Richard F. Post. The Future of Atomic Energy, by C. Rogers McCullough. RESUME—How Shall Nuclear Technology Be Applied, by Edward Teller. APPENDIX A. Nuclear Reactor Data. B. Glossary. INDEX.

** Available only through your local bookstore.*

SCHULTZ—Control of Nuclear Reactors and Power Plants

By M. A. SCHULTZ, Nuclear Consultant. *Series in Nuclear Engg.* Second Edition.

462 *pp.*, 6 *x* 9, 361 *illus.* (1961)....$13.50*i*

This unique work has been revised and updated to give a contemporary account of the use of servomechanism techniques as a method for the control of a nuclear power plant. The book deals with all types of reactors, from homogeneous reactors to boiling reactors. The author has modernized the material by including some of the new concepts that have arisen since publication of the first edition, and has made some of the ideas more generally applicable by discussing reactors other than the pressurized water type. There are about 100 new illustrations. The problems at the end of each chapter have been augmented.

CONTENTS—Introduction. Elementary Physics of Reactor Control. Elementary Servomechanisms. Reactor Kinetics. The Reactor as a Control Element. Automatic Reactor Control. Reactor Control Mechanisms. Nuclear-power-plant Control. Boiling-reactor Plants. Reactor Control Radiation Detectors. Operational Control Problems: Startup. Operational Control Problems: Shutdown. Simulators. Problems. INDEX.

SCHWENK, SHANNON, AND SKROTZKI—Nuclear Power Engineering

Its Nature and Use

By HENRY C. SCHWENK, Henry Pratt Company, and ROBERT H. SHANNON, United Engineers and Constructors, Inc. Edited by B. G. A. SKROTZKI, *Power* Magazine.

344 *pp.*, 5⅜ *x* 8, *illus.* (1957).....$8.50*i*

Explains to technicians and the initiated, the engineering aspects of nuclear power. It gathers in one place the basic physics, design materials, economics, and operation of nuclear power plants. The material originally appeared as "The Nuclear Energy Study Course" in *Power*, and should be of prime importance to

technicians, engineers, and executives in the power industry who want to know how to use nuclear energy.

CONTENTS—Nuclear Power. Atomic Particles. Radioactive Particle Emission. Changing Mass to Energy. Nuclear Reactions. Neutron Behavior. Nuclear Fission. The Chain Reaction and Its Control. Nuclear Reactors. Reactor Materials. Reactor Systems and Auxiliaries. Reactor Loop Components. Plant Location and Safety. Reactor Heat Transfer. Power Cycle Studies. Economics. Designing a Nuclear Reactor. Appendices. Bibliography.

STEPHENSON—Introduction to Nuclear Engineering

By RICHARD STEPHENSON, New York University. *Series in Nuclear Engg.* Second Edition.

491 *pp.*, 6 *x* 9, 156 *illus.* (1958).....$9.95*c*

Gives a basic understanding of the engineering problems encountered in the nuclear energy field and serves as an introduction for those who intend to specialize in nuclear engineering. The discussion covers such topics as nuclear fission, the nuclear chain reactor, reaction theory, radiation shielding, reactor materials, reactor control, separation of stable isotopes, chemical processing of radioactive materials and remote handling equipment. Chapters are included on reactor core design and thermonuclear reactions. This edition includes information released in the Geneva Conference and material made available by the broad declassification program of 1957.

CONTENTS—Preface. Nomenclature and Abbreviations. Review of Nuclear Physics. Nuclear Fission. The Nuclear Chain Reaction. Reactor Theory. Radiation Shielding. Materials of Construction. Reactor Core Design. Reactor Instrumentation and Control. The Separation of Stable Isotopes. Chemical Separations and Processing. Thermonuclear Power. Appendix. Index.

WEINSTEIN, BOLTAX, AND LANZA—Nuclear Engineering Fundamentals

The Combined Volume encompasses the entire set of Books I, II, III, IV, and V in a single cover. In addition, each book is available separately bound.

In Press

These books, constituting the first comprehensive texts in practical atomic and nuclear physics, form an introductory course for engineers and technicians planning to enter the field of atomic energy. They provide the necessary background demanded of engineers and technicians by atomic industries such as public utility power plants, atomic powered ships, government installations, and industrial and medical research centers. Books I, II, and III provide a thorough background in elementary atomic and nuclear physics. They cover radioactivity, nuclear reactions, the interaction of radiation and matter, and the design and principles of detectors, tools, and machines. Books IV and V discuss the applications of nuclear physics to special fields such as metallurgy, oil refining, food sterilization, biology, and aeronautics. Selected high school graduates, equipped with a knowledge of algebra, can begin immediately to study the first three books. The necessary physical science and mathematics beyond algebra are integrated with the material and presented to the reader as needed.

BOOK I—Atomic Physics

By ROY WEINSTEIN, Northeastern Univ.

In Press

CONTENTS—Chemistry. Mechanics. Electromagnetism and Relativity. Atomic Phenomena. The Elements. Appendixes: Conversion Factors and Physical Constants. Chemical Data. Atomic Masses (physical scale). Powers of 10. Vector Addition. Trigonometry. Some Examples of Formal Solutions to Newton's Laws. An Introduction to Calculus. Answers to Problems. Dictionary of Atomic Terms.

BOOK II—Nuclear Physics

By ROY WEINSTEIN.

In Press

CONTENTS—Static Nuclear Properties. Radioactivity. The Liquid Drop Model. Nuclear Reactions. Nuclear Forces. Future Uses of Atomic and Nuclear Physics. Controlled Thermonuclear Reactions. Radioactivity for Control. Appendixes: Derivation of the Exponential Decay Law. Radioactivity Series Decays. Cyclotron Induced Activity. Transformation of Coordinates. Powers of *e*. Answers to Problems. Folding Insert in Back of Book—GE Chart of Nuclides.

BOOK III—Interaction of Radiation and Matter

By ROY WEINSTEIN.

In Press

CONTENTS—Gamma-Ray Interactions with Matter. Charges Particle Interactions with Matter. Neutrons. Gas-filled counters. Scintillation Detectors. Accelerators and Other Devices of Nuclear Physics. Radiation Hazards. Uses of Isotopes as Tracers. Radiation in Biology. Answers to Problems.

BOOK IV—Nuclear Materials

By ALVIN BOLTAX, Westinghouse Electric Corp.

In Press

CONTENTS—Reactor Materials. Functions of Nuclear Reactor Components. What Is a Metal? The Science of Metallurgy. Problems in Materials for Nuclear Power. Nuclear Reactor Fuels. Materials of Construction. Moderator and Reflector Materials.

BOOK V—Nuclear Reactor Theory

By GIOVANNI LANZA, Northeastern Univ.

In Press

CONTENTS—Basic Concepts. Neutron Physics. Neutron Reaction Theory I—Collision Theory. Nuclear Reaction Theory II—Slowing Down Theory. Nuclear Reactor Theory III—Diffusion Theory. Reactor Design. Reactor Control. Reactor Safety and Shielding. Nuclear Reactors. Sanitary Engineering Aspects of Radioactivity. Nuclear Reactors in Aviation. Purification of Foods by Atomic Radiation. Appendixes: Contents and Conversion Factors. Introduction to Calculus. Problems and Answers.

Radiation Biology

HOLLAENDER—Radiation Biology

Edited by ALEXANDER HOLLAENDER, Director of Biology, Oak Ridge National Laboratory. Under the auspices of the National Academy of Sciences and the National Research Council.

A three-volume reference text of great importance. The work has developed steadily over the past several years, with contributions by more than fifty of the leading biologists, biophysicists, and medical scientists in the country. The three volumes will provide a completely up-to-date, detailed discussion of the biological effects of radiation from the physical, the chemical, and the biological points of view. Emphasis placed on the cytological and genetical aspects of radiation damage. The authors discuss the direct and the indirect effects of radiation, temporary changes, and effects of a permanent nature.

VOLUME I—Ionizing Radiations

1201 *pp.*, 6 *x* 9, 216 *illus.* (1954). Two parts not sold separately.....$20.00*r*

CONTENTS—PRINCIPLES OF RADIOLOGICAL PHYSICS. The Measurement of Ionizing Radiations for Biological Purposes. Physical Principles Underlying Photochemical, Radiation-Chemical, and Radiobiological Reactions. Basic Radiation Biochemistry. The Effect of X Rays on Systems of Biological Importance. The Radiobiological Importance of Linear Energy Transfer. The Nature of the Genetic Effects Produced by Radiation. The Man-

ner of Production of Mutations by Radiation. CHROMOSOME ABERRATIONS INDUCED IN ANIMAL CELLS BY IONIZING RADIATIONS. Radiation-induced Chromosome Aberrations in *Trade-scantia*. Immediate Effects on Division, Morphology, and Viability of the Cell. Genetic Effects of Radiation in Mammals. The Effects of Radiation on Mammalian Prenatal Development. The Pathological Physiology of Radiation Injury in the Mammal. I. Physical and Biological Factors in Radiation Action. II. Specific Aspects of the Physiology of Radiation Injury. The Hematologic Effects of Ionizing Radiation. Histological Changes after Irradiation. Carcinogenesis by Ionizing Radiations.

VOLUME II—Ultraviolet Radiations

559 *pp.*, 6 *x* 9, 160 *illus.* (1955).....$9.50*r*

This volume is of special interest to investigators in food preservation, industrial application of ultraviolet in general, health aspects of ultraviolet, and the use of ultraviolet as an analytical tool.

CONTENTS—Photochemistry by Robert Livingston. Practical Applications and Sources of Ultraviolet Energy by L. J. Buttolph. Sunlight as a Source of Radiation by J. A. Sanderson and Edward O. Hulburt. Technique of Study of Biological Effects of Ultraviolet Radiation by Jesse F. Scott and Robert L. Sinsheimer. Ultraviolet Absorption Spectra by R. L. Sinsheimer. A Critique of Cytochemical Methods by A. W. Pollister. The Effect of Ultraviolet Radiation on the Genes and Chromosomes of Higher Organisms by C. P. Swanson and L. J. Stadler. The Effects of Radiation on Protozoa and the Eggs of Invertebrates Other than Insects by Richard F. Kimball. Radiation and Viruses by S. E. Luria. Effects of Radiation on Bacteria by M. R. Zelle and Alexander Hollaender. Radiation Studies on Fungi by Seymour Pomper and Kimball C. Atwood. Photoreactivation by Renato Dulbecco. Sunburn by Harold F. Blum. Ultraviolet Radiation and Cancer by Harold F. Blum.

VOLUME III—Visible and Near-visible Light

341 *pp.*, 6 *x* 9, *illus.* (1956).....$11.50*r*

A collection of recent research material on photosynthesis and other topics important in biological growth and energy. This volume will be of special interest to plant physiologists. Considerable material of importance in the polymer industries, and in the fields of agronomy, horticulture, and marine biology is included.

CONTENTS—Energy in Photoreactions by Rufus Lumry and Henry Eyring. Electronic Structure and Excitation of Polyenes and Prophyrins by John R. Platt. Generation, Control, and Measurement of Visible and Near-visible Radiant Energy by Robert B. Withrow and Alice B. Withrow. Energy Efficiency in Photosynthesis by Farrington Daniels. The Mechanism of Photosynthesis by E. C. Wassink. The Absorption, Action, and Fluorescence Spectra of Photosynthetic Pigments in Living Cells and in Solutions by C. S. French and Violet M. K. Young. Chlorophyll Formation and Accumulation in Plants by James H. C. Smith and Violet M. K. Young. Nitrate Reduction by Hans Burstrom. Prototropism by F. W. Went. Photoperiodism by H. A. Borthwick, S. B. Hendricks, and M. W. Parker. Seed Germination by Michael Evenari. Viscosity, Permeability, and Protoplasmic Streaming by M. G. Stalfelt. Electrical Phenomena in Vision by Lorrin A. Riggs. Invertebrate Photoreceptors by Lorus J. Milne and Margery J. Milne. Photodynamic Action and Its Pathological Effects by N. T. Clare.

COMAR—Radioisotopes in Biology and Agriculture

Principles and Practices

By C. L. COMAR, Director, Laboratory of Radiation Biology, Cornell University.

472 *pp.*, *illus.* (1955).....$11.50*r*

This is an extremely practical text and manual of procedure for the many uses of radioactive tracers in a wide variety of biological and agricultural investigations. The book aims to show the investigator how radioisotopes can fit into his program, and then to show how the experimental work can be undertaken. The basic principles are presented clearly, and illustrated by examples from such diverse fields as physiology, nutrition, entomology, soils, and fertilizers. The details of experimentation include a description of the facilities required and the procedures suitable for studies with plants and animals, both from the standpoint of general usage and in relation to specific radioisotopes.

CONTENTS—Principles of Tracer Methodology. Basic Difficulties in Tracer Methodology. Health Physics and Radiation Protection. Facilities and Handling of Radioisotopes with Animals and Plants. General Procedures for Radioassay. Properties and Procedures for Individual Radioisotopes. Autoradiography. Paper Chromatography. Ion Exchange. Radioactivation Analysis.

SACKS—Isotopic Tracers in Biochemistry and Physiology

By JACOB SACKS, University of Arkansas.

383 *pp.*, 6 *x* 9, 25 *illus.* (1953).....$8.50*m*

Written for students, workers in biological laboratories, and physicians who wish to become familiar with the isotopic tracer technique and its scope in biology. The material is presented by subject rather than by isotope. Some of the more important and useful clinical applications of the tracer technique are included, as well as data on the use of tracer isotopes in the study of photosynthesis.

CONTENTS—Preface. General Principles in the Use of Isotopic Tracers. Elements of Nuclear Physics and Radioactivity. Measurement of Radioactivity. The Measurement of the Heavy Stable Isotopes. Safe Handling of Radioactive Isotopes. The Scope of the Tracer Technique. Movement of Ions Across Phase Boundaries. Carbon Isotopes in Carbohydrate Metabolism. Phosphorylated Intermediates in Carbohydrate Metabolism. Metabolism of Fatty Acids, Phospholipids, and Steroids. Metabolism of Proteins and Amino Acids. Metabolism of Nucleic Acids, Purines, and Pyrimidines. Radioactive Iodine and the Thyroid. Isotopes in the Study of Mineral Metabolism. Tracer Studies on the Blood. Photosynthesis and Related Topics. Appendix A. Index.

Radiation Detection

PRICE—Nuclear Radiation Detection

By WILLIAM J. PRICE, Air Force Institute of Technology. *Series in Nuclear Engg.*

382 *pp.*, 6 *x* 9, 200 *illus.* (1958)....$12.50*i*

This book compiles the basic information on all the important nuclear reaction detectors in use today. Included with the description of the detectors is sufficient specific information on applications to enable the reader to select his own detection equipment and, in most cases, to apply it. The author develops his subject from the fundamentals of atomic and nuclear physics. Chapters on the interaction of radiation with matter and electronic systems for use with radiation detectors round out the coverage of the book. Profusely illustrated, this comprehensive text includes numerical examples in the body of the text and problems at the end of each chapter.

CONTENTS—Preface. Properties of Nuclear Radiation. Survey of Detection Methods. Statistics of Detection Systems. Ionization Chambers. The Geiger-Muller Counter. Proportional Counters. Scintillation Detectors. Photographic Emulsions and Other Detection Methods. Neutron Detection Methods. Electronics for Nuclear Radiation Detection. Index.

Radiation Hygiene

BLATZ—Introduction to Radiological Health

By HANSON BLATZ, N.Y.C. Dept. of Health and New York Univ. Medical Center.

In Press

Text for a course in the subject offered to students in engineering, science, medicine, and public health. The book provides a foundation for radiological health responsibilities. All possible sources of radiation are considered. Also covered are characteristics of radiation, interaction of radiation with matter, biological effects of radiation, maximum permissable doses and concentrations, radiation detection and measurement, shielding, contamination control,

radioactive waste disposal, control of radiological hazards, legal aspects, and guarding against and handling accidents. There is a step-by-step discussion of planning radiation programs and installations, evaluating radiation hazards, and eliminating these hazards.

BLATZ—Radiation Hygiene Handbook
A Practical Reference Covering the Industrial, Medical, and Research Uses of Radiation and Atomic Energy with Special Applications to the Field of Health Physics, Industrial Hygiene, and Sanitary Engineering
Editor-in-Chief, HANSON BLATZ, Radiation Consultant, City of New York; New York University College of Medicine.
926 *pp.*, 6 *x* 9, 268 *illus.* 213 *tables* (1959) $27.50*hb*
Answers virtually any question that may come up about the safe and healthful use of radioactive materials. Offers a vast array of essential information on exposure standards, sources of radiation, waste disposal, air and water pollution control, physiological effects of radiation, tables, general data, helpful glossary, and so on. Specialists in a variety of fields give you the benefit of their practical experience. Descriptions of all natural and man-made sources of radiation help you classify a particular hygiene problem. Explanations of various electronic, photographic, and chemical devices help you detect and measure radiation. Practical applications show you how to insure radiation safety in medicine, industry, and research.
CONTENTS—Reference Data. Glossary of Terms. Exposure Standards and Radiation Protection Regulations. Natural Radioactive Background. Ionizing Radiation. Sources of Radiation. Interaction of Radiation with Matter. Radiation Attenuation Data. Laboratory Design. Radiation Detection and Measurements. Industrial Applications. Research Applications. Medical Radiation Applications. Determination of Exposures. Nuclear Safety. Radiation Hygiene Chemistry. Equipment for Handling, Storage, and Transportation of Radioactive Materials. Surface Contamination and Decontamination. Physiological Effects of Radiation. Sampling Equipment (Dusts, Gases, and Liquids). Liquid and Solid Waste Disposal. Control of Radioactive Air Pollution. Personnel Control.

EISENBUD—Environmental Radioactivity
By MERRIL EISENBUD, New York University Institute of Industrial Medicine.
430 *pp.*, 6 *x* 9, 73 *illus.* (1963).....$12.50*c*
This book consolidates information that has developed during the past twenty years on the behavior of radioactive substances in the environment. It first establishes the biological basis of the problem, and then goes on to describe the intricate processes by which radioactive substances are transported through the atmosphere, aquatic environment, and soils and food chains. The final chapters deal with the lessons learned from accidents that have contaminated the environment with radioactive substances, and with the methods by which the environment may be monitored.
CONTENTS—Introduction. The Biological Basis for Radiation Protection. The Atmosphere. The Food Chain from Soil to Man. The Aquatic Environment. Natural Radioactivity from the Mines to Fabricated Fuel. Reactors. Radioisotope Utilization. Aerospace Utilization of Atomic Energy. Fuel Reprocessing Management of Radioactive Wastes. Local Fallout from Nuclear Explosions. World-wide Radioactivity from the Explosion of Nuclear Weapons. Studies of Environmental Contamination from Accidents. Methods of Environmental Surveillance. Environmental Radioactivity: A Perspective View.

Mathematics

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Introductory and General Mathematics

ALLENDOERFER AND OAKLEY—Fundamentals of Freshman Mathematics

By C. B. ALLENDOERFER, University of Washington; and C. O. OAKLEY, Haverford College.

475 *pp.*, 6 *x* 9, 341 *illus.* (1959)....$7.50*c*

In this pioneering work the authors cover traditional materials in a unique approach. The book stresses mathematical ideas as well as mathematical manipulations, dealing with generally included under the headings of College Algebra, Trigonometry, and Analytic Geometry, plus a review of Intermediate Algebra, and an Introduction to Calculus. The approach followed in this book is in line with the thinking of the best mathematicians as to how the subject should be presented to beginners. There are over 2700 problems (in accordance with engineers' use of the problem-solving approach), most of them based on technological applications.

CONTENTS—Mathematics and Science. The Number System. Polynomials. Algebraic Fractions. Exponents and Radicals. Sets and Equations. Simultaneous Equations and Matrices. Inequalities. Functions and Relations. Algebraic Functions. Exponential and Logarithmic Functions. Trigonometric Functions of Angles. Trigonometric Functions of Real Numbers. Analytic Geometry. Intuitive Integration. Intuitive Differentiation. Hyperbolic Functions.

ALLENDOERFER AND OAKLEY—Principles of Mathematics, 2nd Ed.

By C. B. ALLENDOERFER, Univ. of Washington; and C. O. OAKLEY, Haverford College.

533 *pp.*, 6 *x* 9, 356 *illus.* (1963)....$7.95*c*

An admirable text for either a one- or two-semester pre-calculus course, which also offers a year's work in modern mathematics for liberal arts students. Thoroughly revised, this is virtually a 100% revision. The authors cover various phases of concrete and abstract algebra, very adequate material in analytic geometry, limits, and some introductory material in calculus, and a modern treatment of probability. The book also includes a full treatment of analytic trigonometry and a thoroughly modern approach to the notion of a function. The authors' basic approach to all the material stresses *set theory*.

CONTENTS—Logic and Sets. Number Fields. The Integers. Groups. Equations and Inequalities. Functions. Exponential and Logarithmic Functions. Trigonometric Functions. Analytic Geometry. Limits. The Calculus. Probability. Boolean Algebra. Appendix. Tables. Answers to Odd-numbered Problems. Index.

AYRE—Basic Mathematical Analysis

By H. GLENN AYRE, Western Illinois State College.

584 *pp.*, 6 *x* 9, 227 *illus.* (1950).....$6.75*c*

Written for "unified" freshman mathematics courses in colleges, junior colleges, and technical institutes. The text brings together coherently the essentials of algebra, trigonometry, analytics, and a minimum of the easier concepts of the calculus.

CONTENTS—Preface. Algebraic Symbols and Signs. Greek Alphabet. On the Development of the Number System. The Science of Computation. Applying the Fundamental Definitions and Postulates. Extending Exponents to Aid in Computation. Functional Relationships. Functions of Angles. Solution of Oblique Triangles. Rate of Change of Functions. The Linear Function $uf(x) = mx + b$. The Function $f(x) = a_0x^n + a_1x^{n-1} + \ldots + a_{n-1}x + a_n$. The Space Function $Ax + By + C_2 + D = 0$. The Circle and Sphere. The Function $F(x,y) = Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$. Polar Representation. Parametric Representation. Functions Defined by Sequences and Series. Exponential Functions. Quadric Surface. Appendix. Tables. Answers to Most of the Odd-numbered Exercises. Index.

AYRES, FRY AND JONAH—General College Mathematics

By W. L. AYRES, CLEOTA G. FRY, and H. F. S. JONAH, Purdue University. Second Edition.

327 *pp.*, 6 *x* 9, *illus.* (1960).....$6.95*c*

A relatively simple and extremely teachable freshman mathematics text. Important operations in arithmetic are reviewed, leading the student through the elements of algebra, trigonometry, and the elementary concepts of analytic geometry. The book concludes with a chapter on simple logic. The style leans toward the conversational, exercises are well graded, and attractive illustrations are included. In the present edition many problems have been added, review exercises have been placed after some of the chapters, and explanations have been improved wherever experience showed that students found difficulty.

CONTENTS—Mathematics—What and Why (Sometimes Workhorse, Sometimes Artist). Ratio, Proportion, and Variation (This Is to That). The Concept of Function (The Mathematician's Shorthand). Linear Equations and Relations (A Straight Line Is the Shortest Distance between Two Points). Translation into Equations (An Equation Is a Sentence Is a Sentence Is a Sentence). Quadratic Equations and Relations (No Third Degree Here). Geometry of Triangles (Computing with Similar Figures). Definitions of the Trigonometric Functions (Sine, Cosine, and Tangent). General Right Triangles (How Far Is It from Here to There?). General Triangles (The Law of Sines and Cosines). General Angles (The Angle Goes Round and Round). Graphs of the Trigonometric Functions (Waves but No Water). Finance (Pocketbook Mathematics). Exponents and Logarithms (Mighty Are the Powers of Numbers). Growth (Mighty Oaks from Tiny Acorns). Probability (Gambler's Mathematics). Introduction to Statics (Figures Don't Lie but Liars Do Figure). Frequencies and Distributions (Grouping the Data). The Normal Curve and Sampling (A Question of Distribution). Glimpses of Modern Mathematics—Introduction (Something Old, Something New). The Basis of Our Number System (How Much Is 6 and 5?). The Theory of Numbers (Building Blocks of Arithmetic). Topology (The World Made of Rubber). Logic—The Art of Reasoning (How to Influence People and Lose Friends). APPENDIX. Tables. INDEX.

HEMMERLING—Mathematical Analysis

By EDWIN M. HEMMERLING, Bakersfield College.

340 *pp.*, 5⅝ *x* 8⅜, *illus.* (1959).....$5.75*c*

A one-semester modern text for technical and pre-engineering students who need to strengthen their background of fundamental mathematical concepts before studying engineering mathematics. The text begins with fundamental alge-

braic equations and goes through elements of differential calculus. Emphasis is on those topics and concepts which a student must thoroughly understand before he tackles the study of calculus.

CONTENTS—Fundamental Algebraic Equations. Fractions. Functional Notation and Equations. Cartesian Coordinates. The Straight Line. Operations with Radicals. Complex Numbers. Quadratic Equations. Determinants. Trigonometric Functions. Vector Analysis. Graphical Analysis. Exponential and Logarithmic Functions. Theory of Equations. Partial Fractions. Infinite Series. Elements of Differential Calculus.

KRUGLAK AND MOORE—Basic Mathematics for the Physical Sciences

By HAYM KRUGLAK, Western Michigan University; and JOHN T. MOORE, University of Florida.

354 *pp.*, 6⅜ *x* 9¼, *illus.* (1963)....$5.50*ct*
Soft-cover Ed. $3.95*c*

The authors seek to provide a sourcebook of mathematical skills needed in the introductory physical science courses at the senior high school and college levels. The fundamentals of arithmetic, algebra, geometry, and trigonometry are illustrated by numerous examples. The topics were selected for their usefulness in the elementary courses in physical science for general education, astronomy, chemistry, and physics. While rigor is not sacrificed, emphasis is on the use of mathematics as a language and tool for dealing with the quantitative aspects of the physical world.

CONTENTS—Arithmetic. Algebra. Geometry. Trigonometry. Intuitive Calculus. Measurement. Graphical Display and Analysis of Data. Appendix.

LEPPARD—Calculation Skills

By J. I. L. LEPPARD, Vaughan Road Collegiate Institute, Toronto.

In Press

A workbook of graduated exercises in the fundamental operations of arithmetic, designed to assist the student in developing proficiency in basic rapid calculation skills. Each lesson is carefully planned and is divided into 3 sections: 1) A clear concise explanation of how to perform each operation; 2) Practice exercises which provide ample opportunity to perform the new operation and to repeat operations already learned; 3) Remedial exercises which may be used at the teacher's discretion to overcome weaknesses in the skills that have been practiced. In each chapter, tests are introduced at appropriate intervals to check the student's progress and to satisfy him that he is ready to proceed to the next section.

SELBY AND SWEET—Sets—Relations—Functions

An Introduction

By SAMUEL M. SELBY and LEONARD SWEET, University of Akron.

256 *pp.*, 6 *x* 9, 164 *illus.* (1963).....$5.50*c*
Soft-cover Edition $3.50*c*

The primary purpose of this elementary work is to present those ideas and symbolisms from Set Theory that will aid the average student and teacher in developing a keener insight into much of what he is experiencing in his mathematical training. The authors seek to explain in a very basic and introductory way the language and concepts of Set Theory, and to show the application of these ideas to other areas of mathematics. The exercises include over 1000 problems, in addition to the project and supplementary exercises.

CONTENTS—The Vocabulary and Symbolism of Sets. Real Numbers and Conditions. Ordered Pairs, Cartesian Product, and Relations. Relations and Functions. Mathematical Structures. Answers to Selected Problems. Index.

WADE AND TAYLOR—Fundamental Mathematics

By THOMAS L. WADE and HOWARD E. TAYLOR, The Florida State University. Second Edition.

380 *pp.*, 6 *x* 9, *illus.* (1961).....$6.95*c*

A significantly improved revision of this successful basic text for college students. It is unique in that it provides, better than any other book of its scope and level, material for a course on mathematics in general education, which at the same time may be a foundation course for further study in mathematics. The book is based on the premise that there should be a balance between teaching for understanding and teaching for manipulation; every effort is therefore made to explain the principles (relatively few) behind each manipulation. The treatment of arithmetic is interwoven with a gradual introduction to algebraic symbolism.

CONTENTS—Introduction. The Fundamental Operations with Integers. Simple Equations and Their Solution. Ratio, Proportion, and Percentage. Measurements and Computations with Measurements. Indirect Measurement and Scale Drawing. Exponents. Variation. Quadratic Equations. Relations, Functions, Tables, and Graphs. Business Mathematics. Some Topics in Statistics. Logarithms. Progressions and Annuities. Additional Topics in Algebra. Review Exercises. Miscellaneous Exercises. Answers to Odd-numbered Exercises. INDEX.

WAGNER—Introductory College Mathematics

By ROBERT W. WAGNER, University of Massachusetts.

430 *pp.*, 6 *x* 9, 107 *illus.* (1957)....$6.50*c*

An exceptionally well-written and carefully prepared freshman text. The author's aim is to give the student a concept of mathematics somewhat closer to a mathematician's view than is usually attained in an introductory course, and to give him some aspects of mathematics which are useful in a variety of ways. After introductory chapters on numbers and equations, the function concept is carefully presented and becomes the central theme of the rest of the book.

CONTENTS—Numbers and Their Uses. Equations and Inequalities. Functions. Linear Functions and Arithmetic Progressions. Exponents and Related Functions. Simple Algebraic Functions. Angles and the Trigonometric Functions. Curves and Equations. A Glimpse at the Calculus. Interest and Annuities. Statistics and Probability. Appendix. Tables. Answers to Selected Problems. Index.

UNDERWOOD AND SPARKS—Living Mathematics

By R. S. UNDERWOOD and F. W. SPARKS, formerly Texas Technological College. Second Edition.

363 *pp.*, 6 *x* 9, 88 *illus.* (1949).....$5.50*t*

Elementary introduction to mathematics up to, but not including, calculus. The text is characterized by readability, freshness of viewpoint, and flexibility of organization, as well as sound mathematical content. Part I contains the conventional material for a one-semester course in college algebra. Part II provides a terminating course, as well as much interesting reference material.

CONTENTS—Preface. Part One: Algebra. The Haphazard Beginning. Onward to Algebra. A Sentence and What Comes of It. Now We Picture It. Putting Exponents to Work. A Toy Becomes a Tool. Part Two: A Look Over the Field. Measuring the Inaccessible. New Life in Old Figures. We Creep Up on Solutions. Variables Caught in Action. Our Results

Grow Prophetic. A Ladder without a Top. Fun with Figures. Extended Analytic Geometry—A New Field of Mathematics. Index.

Secondary School Mathematics

AIKEN AND BESEMAN—Modern Mathematics

Topics and Problems

By DAYMOND J. AIKEN and CHARLES A. BESEMAN, both of Lockport Township High School, Lockport, Illinois. Second Edition.

Book I.....*In Press*

Correlated Text-Film Filmstrip Series—six filmstrips (color) each.....$8.00 set $45.00

These booklets are a major revision of the first edition of MODERN MATHEMATICS: TOPICS AND PROBLEMS. Book I furnishes supplementary materials and enrichment for the junior high school mathematics curriculum and it provides an introductory presentation of modern mathematics suitable for any grade level. Book II provides a wealth of material for the senior high school mathematics curriculum, and provides sequential presentation following Book I. This revision is designed for the transitional phase of today's mathematical curriculum. It enables the teacher to lay a sound foundation for further study in modern mathematics and it gives the student the language and ideas of the modern approach to mathematics. In addition, it is stimulating, easy to understand, and fun to work with. Teacher's editions containing complete answers are available.

AIKEN, HENDERSON, AND PINGRY—Algebra

Its Big Ideas and Basic Skills, Book I

By DAYMOND J. AIKEN, Lockport Township High School, Lockport, Illinois, KENNETH B. HENDERSON, University of Illinois, and ROBERT E. PINGRY, University of Illinois. Modern Mathematics Edition.

434 *pp.*, 6 *x* 9, 300 *illus.* (1960).....$4.64*s*

Tests for Book I, Modern Mathematics Edition .....$.96*s*

Correlated Text-Film Filmstrip Series—six filmstrips $45.00

This book is organized around the six big ideas and basic skills of algebra: letters for numbers, exponents, equations, numbers, functions, and graphs. Emphasis throughout is on giving students clear understanding of the meaning of basic principles. The modern mathematics covered includes concepts of symbols, independent and dependent variables, equations and inequalities, inverse operations, direct and inverse variation, scientific notation, distributive principle, commutative principles for addition and multiplication, associative principles for multiplication and addition, additive and multiplicative inverse principles, and ordered number pairs. It also deals with modern development of the use of zero, negative numbers, and fractions as exponents. The book provides optional topics and problems for gifted students; 1800 word problems; and 6700 exercises problems. There is functional-use of the second color in illustrations and in the statements of basic principles.

CONTENTS—1. Using Letters for Numbers. 2. Equations. 3. Signed Numbers. 4. Addition and Subtraction. 5. Multiplication and Division. 6. Functions. 7. Graphical Representation of Algebraic Functions. 8. Systems of Linear Equations with Two Variables. 9. Special Products and Factoring. 10. Algebraic Fractions. 11. Equations and Problems. 12. Exponents and Radicals. 13. Quadratic Equations in One Variable. 14. Indirect Measurement. Appendix. Index.

AIKEN, HENDERSON, AND PINGRY—Algebra

Its Big Ideas and Basic Skills, Book II

By DAYMOND J. AIKEN, Lockport Township High School, Lockport, Illinois, KENNETH E. PINGRY, University of Illinois. Modern Mathematics Edition.

434 *pp.*, 6 *x* 9, 165 *illus.* (1960).....$4.84*s*

Tests for Book II, Modern Mathematics Edition $1.00*s*

This book provides a full year's course for second year high school algebra. Its material is organized around seven big ideas and basic skills: numbers, variables, equations, exponents, functions, series, and probability. It includes added chapters on permutations and combinations and probability. Material on the development of modern mathematics includes variables, equations and inequalities, conditional equations and identity, inverse operations, logic behind solving equations, natural numbers, rational numbers, irrational numbers, and complex numbers. It includes also modern treatment of scientific notation, exponential equations, sets of numbers, concept of vector, concept of function, and topics from analytic geometry. Book II offers optional topics and problems for gifted students, 1000 word problems, and 6000 exercise problems. There is functional use of the second color in illustrations and in the statements of basic principles.

CONTENTS—1. Numbers and Variables. 2. Equations. 3. Factoring, Special Products, and Fractions. 4. Irrational Numbers. 5. Exponents. 6. Logarithms. 7. Quadratic Equations in One Variable. 8. Complex Numbers. 9. Systems of Equations. 10. Functions. 11. Linear Functions. 12. Quadratic Functions. 13. Polynomial Functions in General. 14. Trigonometric Functions. 15. Progressions and Series. 16. Permutations and Combinations. 17. Probability. Appendix. Index.

BROOKS, SCHOCK, AND OLIVER—Trigonometry for Today

By MILTON BROOKS, West Philadelphia High School, West Philadelphia, Pa., A. CLYDE SCHOCK, Central High School, Philadelphia, Pa., and A. I. OLIVER, University of Pennsylvania, Consulting Editor. Second Edition.

320 *pp.*, 5⅝ *x* 8¼, 168 *illus.* (1959)..$4.40*s*

This book meets all the requirements for a complete course in trigonometry at the high school level. With the additional topics in the Second Edition—Complex Numbers, De Moivre's Theorem, and Scientific Notation—it conforms to all modern developments in the field of curriculum revision. *Trigonometry for Today* stresses meaning and points up the unity of the various branches of mathematics. Gradual introduction of new skills, systematic review, and ample exercises of carefully graded difficulty enable students to grasp meanings clearly. A final chapter of seven supplementary topics helps make the book challenging to more able students.

CONTENTS—Functions and Graphs. The Trigonometric Functions. The Fundamental Identities. Graphs of the Trigonometric Functions. The Reduction Rule. Right Triangles. Logarithms. Logarithmic Solution of Right Triangles. Functions of Two Angles. Oblique Triangles.

HENDERSON AND PINGRY—Using Mathematics, Grade 7

By KENNETH B. HENDERSON and ROBERT E. PINGRY, University of Illinois. Second Edition.

480 *pp.*, 5⅝ *x* 8⅜, 390 *illus.* (1961).$4.20*s*

Correlated Text-Film Filmstrip Series—six filmstrips, set.....$45.00

Contains changes on 65 pages, including 32 pages with 845 word problems and exercises to supplement the 15 chapters of the text. Additional problems give practice in fundamental operations with whole numbers, fractions, decimals, and percents. Materials on percents less than 1 per cent, percents greater than 100 per cent, and rectangle graphs have been added. Organization is based on mathematical ideas; applications stress mathematical ideas.

CONTENTS—We Live with Numbers—Comparing Numbers—Working with Fractions and Mixed Numbers—Multiplying and Dividing Fractions—Working with Decimals—Using Units of Measure—Measuring in Everyday Life—Using Ratio—Using Percents—Using Mathematics at Home—Drawing Figures—Finding Areas and Volumes—Using Numbers in Travel and Transportation—Sending Messages—Graphs Tell a Story.

HENDERSON AND PINGRY—Using Mathematics, Grade 8

By KENNETH B. HENDERSON and ROBERT E. PINGRY, University of Illinois. Second Edition.

480 *pp.*, 5⅝ *x* 8⅜, 370 *illus.* (1961).$4.20*s*

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Fifty-five pages in this new edition contain changes. Thirty-two of these pages provide an additional 1,123 problems and exercises to supplement those in the 14 chapters of the text. Other problems provide practice in addition, subtraction, multiplication, division, fractions, decimals, percents, and equations. A combination of arithmetic and general mathematics, this edition covers the recommendations for all the state courses of study for mathematics at the 8th grade.

CONTENTS—Using the Tools of Mathematics—Using Figures in Mathematics—Using Numbers—Using Fractions and Mixed Numbers—Using Decimals—Using Direct Measurement—Working with Percents—Using Percents in Business—Reading and Making Graphs—Figuring Your Taxes—Insuring Against Risks—Measuring Areas and Volumes—Using Letters as Numbers—Measuring Indirectly.

HENDERSON AND PINGRY—Using Mathematics, Grade 9

By KENNETH B. HENDERSON and ROBERT E. PINGRY, University of Illinois. Second Edition.

559 *pp.*, 5⅝ *x* 8⅜, 570 *illus.* (1960).$4.72*s*

Test Problems Workbook.....$.96*s*

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Introduces useful constructions and applications of mathematics which are important in modern living. Intended for the student who does not take college preparatory algebra. The book points up applications of mathematics such as: mathematics in sports; mathematics in the kitchen; and mathematics in your automobile. Many of the life situation problems reflect the interests of girls of this grade level in home economics foods and textile courses and courses in office training. The use of variables as placeholders for numbers and other topics of algebra covered are presented from the standpoint of modern mathematics. Color used throughout the book in cartoons and drawings helps to focus the student's attention.

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By D. J. POTVIN, Loyola High School, Montreal; F. W. BEDFORD, Sir George Williams University, Montreal; and J. C. PEARSON, Loyola High School, Montreal.

280 *pp.*, 8½ *x* 11.....$2.50

The basic purpose of the book is to prepare secondary school students for the mathematics required by the modern college curriculum. This first book, in a series of four, equips the student with the basic knowledge that he will require at higher levels of mathematics. This is accomplished through the concept of set notation, and by providing the system basic to all mathematics. Topics, such as linear pro-

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REEVE AND TUITES—Practical Mathematics Refresher
By WILLIAM D. REEVE, formerly Teachers College, Columbia University, and CLARENCE E. TUITES, Rochester Institute of Technology.
365 *pp.*, 6⅛ *x* 9¼, *illus.* (1955).....$3.80*v*
A combined textbook and workbook designed to present the fundamental principles and processes of mathematics. The book contains a large variety of problems chosen from many vocations and from everyday experiences. It emphasizes the importance of graphs in our modern society and shows many applications. The many illustrative examples and the numerous problems make the book especially suitable for self-study, for high school students who do not continue their education, for students in apprentice programs.
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ROSSKOPF, ATEN, AND REEVE—Mathematics
A First Course
By MYRON F. ROSSKOPF, Teachers College, Columbia University, HAROLD D. ATEN, formerly John C. Fremont High School, Oakland, California, and WILLIAM D. REEVE, formerly Teachers College, Columbia University.
468 *pp.*, 5⅝ *x* 9⅜, 219 *illus.* (1951)..$4.20*s*
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438 *pp.*, 5⅝ *x* 8⅜, 115 *illus.* (1955)..$4.80*s*
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SCHNELL AND CRAWFORD—Plane Geometry
A Clear-thinking Approach
By LEROY H. SCHNELL, formerly State Teachers College, Indiana, Pennsylvania, and MILDRED CRAWFORD. Third Edition.
436 *pp.*, 6 *x* 9, *illus.* (1953).....$4.80*s*
Presents plane geometry in a manner that develops the techniques of logical reasoning and applies them to non-geometric situations in everyday life. Follows the principles of earlier editions, but provides problems of current importance for their application. Treats theorems on three levels, adapting the book to students of varying abilities. Exercises constantly repeated, called *"Keep the Iron Hot,"* help the student to review important mathematical skills learned in earlier courses. The 500 illustrations are especially effective in making the material clear and interesting.
CONTENTS—Everyday Reasoning. Basic Construction. Fundamental Geometric Concepts. Experimentation. Assumptions. Meaning of Proof. Theorems and Applications. Proof of Theorems (cont.). Other Methods of Proof. Circles and Circle Measurement. Loci and Inequalities (Optional). Proportion and Similarity. Constructions and Designs. Area and Polygons. Reasoning in Non-mathematical Situations. Food for Thought (Optional). Vocabulary.

Geometry

ADLER—Modern Geometry
An Integrated First Course
By CLAIRE FISHER ADLER, New York University.
215 *pp.*, 6 *x* 9, 130 *illus.* (1958)....$6.95*c*
Written for a beginning course, this text covers and unifies basic theory in the foundations of geometry and in the fields of Euclidean, projective, and Non-Euclidean geometry. It presents a clear, composite picture of the entire elementary field which will acquaint the reader with the momentous discoveries of the last 200 years and also the changes which have taken place in geometric thinking in the past 2,000. The author takes cognizance of the time factor in the student's program, his mathematical background, maturity, and future needs.
CONTENTS—Preface. FOUNDATIONS AND SELECTED EUCLIDEAN GEOMETRY. *Foundations.* Logical Systems and Basic Laws of Reasoning. Special Topics of Axiomatic Geometry. *Selected Euclidean Geometry.* Menelaus' and Ceva's Theorems. Harmonic Elements and Cross Ratio.

Inversion Theory. PROJECTIVE GEOMETRY. Projections, Invariants and Other Unifying Concepts. Basic Axioms, Duality, Desargues' Theorem, and Perspective Figures. Projective Theory of Harmonic Elements. Additional Axioms. Perspectivities, Projectivities, and the Projective Theory of Conics. Coordinate Projective Geometry. Transformation Theory. NON-EUCLIDEAN AND METRIC PROJECTIVE GEOMETRIES. Early Axiomatic Theories and the Later Metric Approach to Non-Euclidean Geometry. Parabolic Geometry. Hyperbolic Geometry. Elliptic Geometry. APPENDIX A. Early Foundation of Euclidean Geometry. B. Hilbert's Axioms. Bibliography. Index.

HENDERSON, PINGRY, AND ROBINSON—Modern Geometry
Its Structure and Function
By KENNETH B. HENDERSON, University of Illinois, ROBERT PINGRY, University of Illinois, and GEORGE ROBINSON, Argonne National Laboratories.
567 *pp.*, 6⅜ *x* 9¼, 840 *illus.* (1962)..$5.60*s*
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CONTENTS—Lines, Planes, Angles and Sets. Properties of Triangles. Algebra to Be Used in Geometry. Proving Theorems. Parallel and Perpendicular Lines and Planes. Similarity. Coordinate Geometry. Polygons, Parallelograms, and Prisms. Circles and Cylinders. Areas and Volumes. Spheres. Vectors.

Algebra

MIDDLEMISS—College Algebra
By Ross R. MIDDLEMISS, Washington University.
344 *pp.*, 6 *x* 9, 42 *illus.* (1952).....$5.50*c*
College text covering all the topics usually taught in a standard course. The principal aim of the book is to make the algebra course more valuable and more stimulating by putting greater emphasis on reasoning and clear thinking and by thus combating the student's tendency toward mechanical operations unaccompanied by real thought. Problem sets contain many questions which require the student to analyze his operations carefully.
CONTENTS—Preface. Suggested Lesson Schedule. Real Numbers. Fundamental Operations. Operations with Polynomials and Rational Fractional Expressions. Equations. Functions and Graphs. Systems of Equations. Inequalities. Negative and Fractional Exponents. The Exponential Function. Logarithms. Variation. Progressions. Mathematical Induction. The Binomial Theorem. Compound Interest and Annuities. Theory of Equations. Determinants. Complex Numbers. Permutations and Combinations. Probability. Tables. Answers. Index.

MIDDLEMISS—Algebra for College Students
By Ross R. MIDDLEMISS, Washington University.
388 *pp.*, 6 *x* 9, 42 *illus.* (1953).....$5.50*c*
This text is identical with the author's *College Algebra* with the following exceptions: the first three chapters of *College Algebra* have been replaced by five chapters, covering this same elementary material at a more leisurely pace. This new coverage is better suited to the needs of students who have had only one year of high school algebra, as well as those who need a slower and more detailed review of the fundamentals.
CONTENTS—Preface. Fundamental Operations with Natural Numbers and Simple Fractions. Signed Numbers. The Real Number System. Polynomials and Rational Fractional Expressions. Linear Equations. Quadratic Equations. Functions and Graphs. Systems of Equations. Inequalities. Negative and Fractional Exponents. The Exponential Function. Logarithms. Variation. Progressions. Mathematical Induction. The Binomial Theorem. Compound Interest and Annuities. Theory of Equations. Determinants. Complex Numbers. Permutations and Combinations. Probability. Tables. Answers. Index.

MOSTOW, SAMPSON, AND MEYER—Fundamental Structures of Algebra
By GEORGE D. MOSTOW, Yale Univ., J. H. SAMPSON, The Johns Hopkins Univ., JEAN-PIERRE MEYER, The Johns Hopkins Univ.
640 *pp.*, 6⅜ *x* 9¼, *illus.* (1963)....$8.95*c*
Offers virtually all the algebra likely to be encountered by students who will take up science and engineering careers as well as a thorough introduction to algebra for future mathematicians. Basic concepts are systematically developed via an axiomatic approach which leads into a mature, rigorous study of modern algebra.
CONTENTS—Binary Operations and Groups. Rings. Integral Domains. The Integers. Fields—The Rational Numbers. The Real Number System. The Field of Complex Numbers. Polynomials. Rational Functions. Vector Spaces and Affine Spaces. Linear Transformations and Matrices. Groups and Permutations. Determinants. Rings of Operators and Differential Equations. The Jordan Normal Form. Quadratic and Hermitian Forms. Quotient Structures. Tensors.

PALMER AND MISER—College Algebra
By CLAUDE IRWIN PALMER and WILSON LEE MISER, Ohio Northern University. Second Edition.
467 *pp.*, 5 *x* 7¼, *illus.* (1937).....$5.75*c*
Here is an unusually successful textbook containing exercises and problems, illustrative examples simply and graphically presented. The average student has been kept constantly in mind, and an effort has been made to show him the relation of algebra to the problems confronting him in the sciences, business, and other activities.
CONTENTS—Fundamental Operations, Type Forms, and Factoring; Fractions; Functions and Graphs; Linear Equations, One Unknown; Linear Equations, More than One Unknown; Exponents; Radicals; Quadratic Equations; Simultaneous Quadratic Equations; Inequalities; Theory of Quadratic Equations; Ratio, Proportion, and Variation; Logarithms; Binomial Theorem and Mathematical Induction; Progressions and Investment; Complex Numbers; Theory of Equations; Partial Fractions; Permutations, Combinations, Probability; Determinants, Infinite Series; Tables.

PECK—Elements of Algebra
By LYMAN C. PECK, Ohio Wesleyan University.
230 *pp.*, 6 *x* 9, 14 *illus.* (1950).....$4.95*c*
This text is written primarily for college students who have had no algebra in high school, and thus presupposes no mathematics background other than ordinary arithmetic. Although the text is elementary in the strictest sense of the word, the treatment is nevertheless mature, suitable for students from late high school age upward.
CONTENTS—Introduction. Laws for the Operation of Addition. Laws for the Operation of Multiplication. Laws for the Operation of Subtraction. Equalities. Laws. Laws for the Operation or Subtraction. Factoring. Graphical Methods. Systems of Linear Equations. Quadratic Equations. Complex Numbers. Problems from Chemistry and Physics. Answers to Exercises. Index.

REES AND SPARKS—Intermediate Algebra

By PAUL K. REES, Louisiana State University, and FRED W. SPARKS, formerly Texas Technological College. Second Edition.

306 *pp.*, 6 x 9, 24 *illus.* (1957).....$5.25*c*

A freshman text designed to meet the need for a college algebra for students with only one year's background in high school algebra. The book can be used as a terminal algebra course for students who are not entering a technical field. The course is tied to the student's school background by means of arithmetical formulas, showing that in the use of these, the student has entered the field of algebra. There are some 2,500 problems, generally arranged in groups of four on the same level of difficulty.

CONTENTS—Preface. The Formula, Fundamental Operations, and Simple Equations. The Four Fundamental Operations. Special Products and Factoring. Fractions and Fractional Equations. Functions and Graphs. Simultaneous Linear Equations. Exponents and Radicals. Quadratic Equations. Systems of Quadratic Equations in Two Variables. Ratio, Proportion, and Variation. Logarithms. The Progressions. The Binomial Theorem. Index.

REES AND SPARKS—College Algebra

By PAUL D. REES, Louisiana State University; and FRED W. SPARKS, formerly Texas Technological College. Fourth Edition.

428 *pp.*, 6⅜ x 9¼, 40 *illus.* (1961)..$6.95*c*

This fourth edition will furnish the necessary algebraic background for students in engineering, arts and sciences, business administration, and agriculture. It is designed for the conventional college algebra course and the material is organized so that even an inexperienced teacher needs to spend little time in lesson planning: each problem group follows text material covered in one normal lecture period. More than the usual number of well-explained and prominently-displayed illustrations and illustrative examples have been included. The authors carefully build up to the definition of each new term, define it, and then illustrate it.

CONTENTS—Preface. The Four Fundamental Operations. Special Products and Factoring. Fractions. Linear and Fractional Equations. Functions and Graphs. Simultaneous Linear Equations. Exponents and Radicals. Quadratic Equations. Simultaneous Quadratic Equations. Ratio, Proportion, and Variation. Complex Numbers. Higher Degree Equations. Inequalities. Logarithms. The Progressions. Mathematical Induction. The Binomial Theorem. Compound Interest and Annuities. Permutations and Combinations. Probability. Determinants. Partial Fractions.

REES AND SPARKS—Algebra and Trigonometry

By PAUL K. REES, Louisiana State Univ.; and FRED W. SPARKS, Texas Technological College.

403 *pp.*, 6 x 9, *illus.* (1962).....$7.50*c*

Seeks to present the algebraic and trigonometric background necessary for a course in analytic geometry and/or calculus. An axiomatic approach enables the student to develop an understanding of the subject. This is a reasoning rather than a rule book, although rules and methods of procedure are developed and illustrated. The analytical part of trigonometry is stressed.

CONTENTS—1. The Number System and the Fundamental Operations. 2. Fractions. 3. Linear and Fractional Equations. 4. Exponents and Radicals. 5. Functions and Graphs. 6. Systems of Linear Equations. 7. The Trigonometric Function. 8. Fundamental Identities. 9. Reduction, Use of Tables. 10. Angular Measure. 11. Variation and Graphs of the Trigonometric Functions. 12. Quadratic Equations. 13. Simultaneous Quadratic Equations. 14. Variations. 15. Functions of a Composite Angle. 16. Complex Numbers. 17. Higher Degree Equations. 18. Inequalities. 19. Logarithms. 20. Right Triangles. 21. Oblique Triangles. 22. The Progressions. 23. Mathematical Induction. 24. The Binomial Theorem. 25. Trigonometric Equations. 26. Inverse Trigonometric Functions. 27. Permutations, Combinations, and Probability. 28. Determinants.

Trigonometry

FULLER—Plane Trigonometry

By GORDON FULLER, Texas Technological College. Second Edition.

207 *pp.*, 6 x 9, 93 *illus.* (1959)

Text with tables.....$5.50*c*
Text without tables.....$4.95*c*
Tables alone.....$1.75*c*

This text has been prepared as a first course in trigonometry for college students who need a sufficient mastery of the subject for its employment in other fields. Avoiding discussions and explanations of a too brief, too condensed nature, the author makes a serious effort to present each topic in complete, clear, and simple language. Greatly strengthened by improved exposition, better organization and more problems, this second edition emphasizes analytic trigonometry and brings it into proper balance with numerical trigonometry.

CONTENTS—Preface. The Greek Alphabet. Angles. The Trigonometric Functions. Approximate Numbers and Tables of Trigonomertic Functions. Applications to Right Triangles. Fundamental Identities. Trigonometric Functions of Several Angles. Graphical Representation of the Trigonometric Functions. Logarithms. The Law of Sines and the Law of Cosines. The Law of Tangents and the Half-angle Formulas. Trigonometric Equations and the Inverse Functions. Complex Numbers. Answers to Odd-numbered Problems. Tables.

HEINEMAN—Plane Trigonometry

By E. RICHARD HEINEMAN, Texas Technological College. Second Edition.

167 *pp.*, 6 x 9, 97 *illus.* (1956)

Text with tables.....$5.50*c*
Text without tables.....$4.25*c*
Tables (1942).....$2.75*c*

Designed especially for students of varying mathematical backgrounds, this trigonometry textbook seeks to aid them in acquiring the habit of logical and independent thinking. Memory work has been reduced to a minimum, and all unnecessary formulas and concepts have been omitted. The author has selected the new characteristic rule for logarithms, but lists the old rule as an alternative. There is a particularly careful explanation of approximations and significant figures. The book contains more than 1250 problems.

CONTENTS—The Trigonometric Functions. Trigonometric Functions of an Acute Angle. Trigonometric Identities. Related Angles. Radian Measure. Graphs of the Trigonometric Functions. Functions of Two Angles. Trigonometric Equations. Logarithms. Right Triangles. Oblique Triangles. Inverse Trigonometric Functions. Complex Numbers. Appendix. Index. Answers to Problems.

HEINEMAN—Plane Trigonometry—Alternate Edition

By E. RICHARD HEINEMAN, Texas Technological College.

252 *pp.*, 6 x 9, 87 *illus.* (1950)

Text with tables.....$5.50*c*
Text without tables.....$3.95*c*
Tables (1942).....$2.50*c*

The alternate edition of this successful college text contains a new set of problems and exercises. Otherwise it is the same as the first edition of the regular text.

CONTENTS—Note to the Student. Greek Alphabet. The Trigonometric Functions. Trigonometric Functions of an Acute Angle. Trigonometric Identities. Related Angles. Radian Measure. Graphs of the Trigonometric

Functions. Functions of Two Angles. Trigonometric Equations. Logarithms. Right Angles. Oblique Triangles. Inverse Trigonometric Functions. Complex Numbers. Appendix. Index. Answers to Problems.

HOLMES—Trigonometry

By CECIL T. HOLMES, Bowdoin College.

246 *pp.*, 6 *x* 9, *illus.* (1951).....$5.50*c*

Connects trigonometry more closely with other college mathematics by introducing some very elementary concepts from analytic geometry and using them consistently in proofs throughout the book. Emphasis is upon understanding rather than mechanical manipulation.

CONTENTS—Coordinate Systems. The Trigonometric Functions. Radiants, Graphs. Inverse Functions. Identities and Conditional Equations. Common Logarithms and Logarithmic Computation. The Solution of Plane Triangles. The Number E, Series, Complex Numbers. Spherical Trigonometry. Answers to Exercises. Index.

KELLS, KERN, AND BLAND—Plane and Spherical Trigonometry

By LYMAN M. KELLS, WILLIS F. KERN, and JAMES R. BLAND, United States Naval Academy. Third Edition.

290 *pp.*, 6 *x* 9, 278 *illus.* (1951)

Text with tables.....$5.25*c*
Text without tables.....$4.25*c*
Tables $2.75*c*

Simplicity is the keynote of this Naval Academy text. The student takes up only one new idea at a time. First he studies a carefully-stated and illustrated treatment of the idea. Then he answers simple questions to acquaint himself with basic features. Finally, he solves enough carefully-graded, illustrated, and motivated problems to provide for complete assimilation. The book is suitable for use in colleges, junior colleges, and preparatory schools.

CONTENTS—Preface. PART I. PLANE TRIGONOMETRY. Trigonometric Functions of an Acute Angle. Fundamental Relations among the Trigonometric Functions. The Right Triangle. Generalized Trigonometric Functions. Vectors. Graphs of Trigonometric Functions. General Formulas. Oblique Triangles. Inverse Functions and Trigonometric Equations. Complex Numbers. Logarithms. PART II. SPHERICAL TRIGONOMETRY. Basic Ideas and Formulas of Spherical Trigonometry. Solution of Spherical Triangles by Computation. Applications Relating to Celestial Bodies and the Astronomical Triangle. Classical Methods of Solving Spherical Triangles. Appendixes. Answers. Index.

KELLS, KERN, AND BLAND—Plane Trigonometry

By LYMAN M. KELLS, WILLIS F. KERN, and JAMES R. BLAND, United States Naval Academy. Third Edition.

220 *pp.*, 6 *x* 9, *illus.* (1951)

Text with tables.....$5.50*c*

Consists of those sections of the authors' *Plane and Special Trigonometry* which are restricted to plane trigonometry, for institutions where plane and spherical trigonometry are not covered in the same course. Features of the book are the logical arrangement of topics and the extensive collection of problems.

CONTENTS—Preface. Trigonometric Functions of an Acute Angle. Fundamental Relations Among the Trigonometric Functions. The Right Triangle. Generalized Trigonometric Functions. Vectors. Graphs of Trigonometric Functions. General Formulas. Oblique Triangles. Inverse Functions and Trigonometric Equations. Complex Numbers. Logarithms. Appendices. Index. Answers.

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Accurate, convenient, and easy to understand tables of logarithms.

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* *Available only through your local bookstore.*

PALMER, LEIGH, AND KIMBALL—Plane and Spherical Trigonometry

By C. I. PALMER, C. W. LEIGH; and SPOFFORD KIMBALL, University of Maine. Fifth Edition.

266 *pp.*, 6 *x* 9, *illus.* (1950).....$5.50*c*

A widely-known college textbook including new problems and exercises. The extremely useful chapter on logarithms and the use of tables has been transferred from the *Tables* volume to the text portion of the work.

CONTENTS—Introduction. Trigonometric Functions of One Angle. Relations between Trigonometric Functions. Right Triangles. Functions of All Angles. Graphical Representation of Trigonometric Functions. Practical Applications and Related Problems. Function —Involving More than One Angle. Oblique Triangles. Trigonometric Equations. Complex Numbers. De-Moivre's Theorem, Series. Spherical Trigonometry. Logarithms and Explanations of Tables. Index.

SMAIL—Trigonometry, Plane and Spherical

By LLOYD L. SMAIL, deceased.

406 *pp.*, 6 *x* 9, *illus.* (1952)

Text with tables.....$5.75*c*

A basic text for a standard college course in trigonometry. It includes all the topics usual in such a course, with due attention to both the numerical aspects of the subject and the theoretical parts. The arrangement has been planned to give utmost flexibility, so as to make the book adaptable to courses of varying lengths and needs.

CONTENTS—Preface. The Trigonometric Functions. Solution of Right Triangles. Further Properties of the Trigonometric Functions. Fundamental Relations between the Trigonometric Functions. Radian Measure of Angles. Graphs of the Trigonometric Functions. Trigonometric Functions of Compound Angles. Solution of Oblique Triangles. Inverse Trigonometric Functions. Solution of Trigonometric Equations. Complex Numbers. Solution of Right Spherical Triangles. Solution of Oblique Spherical Triangles. Logarithms. Formulas from Algebra and Geometry. Answers to Odd-numbered Exercises. Index.

WYLIE—Plane Trigonometry

By C. R. WYLIE, Jr., University of Utah.

381 *pp.*, 6 *x* 9, *illus.* (1955).....$5.50*c*

The author focuses primarily on the analytical aspects of plane trigonometry indicating its importance in a subsequent study of mathematics, physics, or engineering. His style is informal and direct, and his numerous illustrative examples well-chosen and completely worked out. In addition to all the usual topics, discussions of complex numbers, trigonometric series, and hyperbolic functions are included.

CONTENTS—Preface. The Six Trigonometric Functions. Elementary Identities and Reduction Formulas. The Solution of Right Triangles. The Graphs of the Trigonometric Functions. Functions of Composite Angles. The Inverse Trigonometric Functions. Trigonometric Equations. Logarithms. The Solution of Oblique Triangles. Complex Numbers and De Moivres' Theorem. Trigonometric Series. Hyperbolic Functions. Appendix: The Greek Alphabet and Special Symbols.

Calculations with Approximate Numbers. Review Material from Algebra. Review Material from Geometry. Glossary. Tables. Index.

Analytic Geometry

DOUGLASS AND ZELDIN—Analytic Geometry

By R. D. DOUGLASS and S. D. ZELDIN, Massachusetts Institute of Technology.

212 *pp.*, 6 x 9, 126 *illus.* (1950).....$4.95*c*

An excellent standard text, suitable for either liberal arts or engineering students. The aim is to present the essential topics of elementary analytic geometry, both plane and solid, in a simple and concise manner; to enable the student to learn the principles involved and their applications in mathematics and other sciences; to prepare the student for a course in the calculus in the least possible time. To facilitate the understanding of definitions and principles, and the acquiring of proper techniques for their application, a large number of illustrative examples and a wide variety of exercises follow each topic.

CONTENTS—Preface. Fundamental Notions. Straight Lines. Circle. Ellipse. Hyperbola. Parabola. Rotation of Axes. Algebraic Curves. Trigonometric and Exponential Curves. Polar Coordinates. Parametric Representation of Curves. Rectangular Coordinates in Space. Surfaces. Numerical Tables. Answers to Exercises. Index.

MIDDLEMISS—Analytic Geometry

By Ross R. MIDDLEMISS, Washington University. Second Edition.

310 *pp.*, 6 x 9, *illus.* (1955).....$4.95*c*

The majority of those studying analytic geometry are preparing for a study of calculus; it is with this purpose in mind that the author made his selection of topics for this volume. More emphasis is placed on graphs and the elementary properties of polynomials, rational fractional functions, exponential and logarithmic functions, and trigonometric functions than on the more classical, but less applicable, study of conic sections. The author has made a definite effort to promote clear thinking on the part of the student and to lead him, by means of the text materials and problems, to think in terms of the basic ideas, definitions, and methods of analytic geometry. In this second edition new problems, new figures, new illustrative examples, and sometimes a new point of view, have been introduced as a result of the author's experience in using the first edition.

CONTENTS—INTRODUCTION. Review of Essential Definitions and Formulas from Algebra and Trigonometry. PLANE ANALYTIC GEOMETRY. Functions and Graphs. Fundamental Theorems and Methods. The Line. Linear Functions. The Polynomial Curves. Rational Fractional Functions. Transformation of Coordinates. The Circle. The Parabola, Ellipse, and Hyperbola. Other Algebraic Curves. The Trigonometric Curves. The Exponential and Logarithmic Curves. Parametric Equations. Polar Coordinates. Curve Fitting. SOLID ANALYTIC GEOMETRY. Preliminary Definitions and Formulas. Planes and Lines. Surfaces and Curves. TABLES. ANSWERS.

ROBINSON—Analytic Geometry

By ROBIN ROBINSON, Professor of Mathematics, Dartmouth College.

147 *pp.*, 5¼ x 8¼, 60 *illus.* (1949)..$3.75*c*

Designed for the liberal arts curriculum, this brief text covers the conventional course in analytic geometry. It presents the more usual materials in plane analytic geometry, built around the study of the conic sections as a core; the quadratic surfaces play a similar role in the treatment of space analytic geometry which concludes the book. New techniques are illustrated by worked examples, and great care has been taken in the selection and arrangement of problems.

CONTENTS—Introduction. The Straight Line. The Circle. Combinations of Curves. Locus Problems. General Equation of the Second Degree. Further Properties of Conic Sections. Polar Coordinates. Space Analytic Geometry: The Plane and the Line. Space Analytic Geometry: The Quadric Surfaces. Index.

ALBERT—Solid Analytic Geometry

By ADRIAN ALBERT, University of Chicago.

162 *pp.*, 6 x 9, 21 *illus.* (1949).....$5.75*c*

Contains an exposition of the analytic geometry of three-dimensional space. It aims to provide a modern and simpler treatment of the subject matter which permits easy generalization and fits the subject into its proper place in modern mathematics. The early part of the book is simplified by the use of the concepts of inner and scalar products. A brief chapter on the theory of matrices is used to provide a clear and full explanation of the principal axis transformation in the n-dimensional case.

CONTENTS—Preface. Coordinates and Lines. Planes. Surfaces and Curves. Spheres. Quadratic Surfaces. Theory of Matrices. Rotations of Axes and Applications. Spherical Coordinates. Elements of Projective Geometry. Index.

Analytic Geometry and Calculus

AGNEW—Calculus

Analytic Geometry and Calculus, with Vectors

By RALPH P. AGNEW, Cornell University.

752 *pp.*, 6 x 9, 401 *illus.* (1962).....$9.50*c*

This is a work of unusual interest, presenting a mathematically sophisticated and rigorous text designed for the standard introductory college calculus course. It is highly teachable, emphasizing logical consistency, careful definitions, optional material for the best students, brief introductions to topics normally covered in advanced courses, and the use of the vector language when it can best convey a concept. Basic concepts are accurately formulated and thoroughly discussed. An outstanding feature is the quality of the problems, which are distinctive in their originality and emphasis on understanding rather than mere manipulation.

CONTENTS—ANALYTIC GEOMETRY IN TWO DIMENSIONS. Real Numbers. Slopes and Equations of Lines. Lines and Linear Equations; Parallelism and Perpendicularity. Distances, Circles, and Parabolas. Equations. Statements, and Graphs. Introduction to Velocity and Acceleration. VECTORS AND GEOMETRY IN THREE DIMENSIONS. Vectors in E_2. Scalar Products, Direction Cosines, and Lines in E_3. Planes and Lines in E_3. Determinants and Applications. Vector Products and Changes of Coordinates in E_3. FUNCTIONS, LIMITS, DERIVATIVES. Functional Notation. Limits. Unilateral Limits and Asymptotes. Continuity. Difference Quotients and Derivatives. The Chain Rule and Differentiation of Elementary Functions. Rates, Velocities, Related Rates. Increments and Differentials. INTEGRALS. Indefinite Integrals. Riemann Sums and Integrals. Properties of Integrals. Areas and Integrals. Volumes and Integrals. Riemann-Cauchy Integrals and Work. Mass, Linear Density, and Moments. Moments and Centroids in E_2 and E_3. Simpson and Other Approximations to Integrals. FUNCTIONS, GRAPHS, AND NUMBERS. Graphs, Slopes, and Tangents. Trends, Maxima, and Minima. Second Derivatives, Convexity, and Flexpoints. Theorems about Continuous and Differential Functions. The Rolle Theorem and the Mean-Value Theorem. Sequences, Series, and Decimals. Darboux Sums and Riemann Integrals. CONES AND CONICS. Parabolas. Geometry of Cones and Conics. Ellipses. Hyperbolas. Translation and Rotation of Axes. Quadric Surfaces. CURVES, LENGTHS, AND CURVATURES. Curves and Lengths. Lengths and Integrals. Center and Radius of Curvature. TRIGONOMETRIC FUNCTIONS. Trigonometric Integrands. Inverse Trigonometric Functions. Integration by Trigonometric and Other Substitutions. Integration by Sub-

stituting $z = \tan \theta/2$. EXPONENTIAL AND LOGARITHMIC FUNCTIONS. Exponentials and Logarithms. Derivatives and Integrals of Exponentials and Logarithms. Hyperbolic Functions. Partial Fractions. Integration by Parts. POLAR, CYLINDRICAL, AND SPHERICAL COORDINATES. Geometry of Coordinate Systems. Polar Curves, Tangents, and Lengths, Areas and Integrals Involving Polar Coordinates. PARTIAL DERIVATIVES. Elementary Partial Derivatives. Increments, Chain Rule, and Gradients. Formulas Involving Partial Derivatives. SERIES. Definitions and Basic Theorems. Ratio Test and Integral Test. Alternating Series and Fourier Series. Power Series. Taylor Formulas with Remainders. Euler-Maclaurin Summation Formulas. ITERATED AND MULTIPLE INTEGRALS. Iterated Integrals. Iterated Integrals and Volumes. Double Integrals. Rectangular Coordinate Applications of Double and Iterated Integrals. Integrals in Polar Coordinates. Triple Integrals; Rectangular Coordinates. Triple Integrals; Cylindrical Coordinates. Triple Integrals; Spherical Coordinates. APPENDIX. Proofs of Basic Theorems on Limits. Volumes. INDEX.

GAY—Analytical Geometry and Calculus
By HAROLD J. GAY. Edited by RAYMOND K. MORLEY, Worcester Polytechnic Institute.
524 *pp.*, 6 *x* 9, 282 *illus.* (1950).....$6.75*c*
This book is in all essentials the work of the late Professor Harold J. Gay. It is intended to cover the elements of analytical geometry and calculus in an order of topics that will introduce the basic ideas of calculus fairly early, but not until the student has had enough work with coordinates to make graphs and the common curves familiar, so that the *y* may be used readily for illustrative purposes in calculus.
CONTENTS—Rectangular Coordinates. Graphs and Locus Problems. The Straight Line. Graphs of Algebraic Functions. The Circle. Parabola, Ellipse, and Hyperbola, Introduction to Calculus. Differentiation of Algebraic Functions. Certain Applications of the Derivative. Rate Problems. Differentials. Introduction to Integral Calculus. Exponential and Logarithmic Functions. Trigonometric Functions. Parametric Equations. Coordinate Transformations. The General Equation of the Second Degree. Polar Coordinates. Curvature. Motion. Indeterminate Forms. Rectangular Coordinates in Space. Special Surfaces. Partial Differentiation. Methods of Integration. Applications of Integration. Multiple Integrals. Centroid; Moment of Inertia. Infinite Series. Constant Terms Power Series; Applications. Differential Equations of the First Order. Differential Equations of Higher Order. Application of Differential Equations. Tables. Answers. Index.

HOLMES—Calculus and Analytic Geometry
By C. T. HOLMES, Bowdoin College.
416 *pp.*, 6 *x* 9, 183 *illus.* (1950)....$7.25*c*
A college text for freshmen or sophomores, for a combination course in which the concepts and techniques of the calculus are the main objectives. The analytic geometry material is closely interwoven with calculus throughout the first half of the book, and the concept of integration is introduced early. The text is suitable for either arts and science students or engineering students. There is an abundance of problems and exercises.
CONTENTS—Algebra and Geometry in Cooperation. Elements of the Differential Calculus. The Conic Sections. Maxima, Minima, and Inflections. First Notions of the Integral Calculus. Algebraic Functions. Curvilinear Motion. Vectors. Parametric Equations. Arc Length. Area of a Surface of Revolution. The Logarithmic and the Exponential Functions. Integration by Parts. The Trigonometric Functions. Calculus with the Trigonometric Functions. Applications. Infinite Series. Expansion of Functions. Ordinary Differential Equations. Solid Analytic Geometry. Differential Calculus for Functions of More than One Variable. Integral Calculus with Functions of More than One Variable. Formulas for Reference. Answers to Exercises. Index.

RICHMOND—Fundamentals of the Calculus
By DONALD E. RICHMOND, Williams College.
233 *pp.*, 6 *x* 9, *illus.* (1950).....$5.00*c*
An excellent shorter text designed for freshmen courses. The book was written to provide sufficient knowledge of the calculus to furnish an adequate background for courses in physics, using exponentials and trigonometric functions, and to enable the liberal arts student who elects one year of college mathematics to acquire some feeling for mathematical thinking by presenting the material with as much attention to logical clarity as possible. The text assumes no knowledge of analytic geometry, advanced algebra, or analytic trigonometry. What is essential in these subjects is developed in close connection with the rest of the text.
CONTENTS—Preface. Numbers. Functions and Graphs. Derivatives. Integration. Logarithmic and Exponential Functions. Complex Numbers and Trigonometric Functions. The Analytic Geometry of the Conics. Answers. Index.

Calculus

ANDREE—Introduction to Calculus
By RICHARD V. ANDREE, University of Oklahoma.
371 *pp.*, 6 *x* 9, 122 *illus.* (1962)....$9.50*t*†
Designed for the mature student who wishes to acquire the vital concepts of calculus. The emphasis is on basic ideas rather than on drill in manipulative techniques and superficial dexterity, or "formula juggling." Generalization is stressed throughout in order to provide the fundamentals of calculus needed to understand and formulate new problems. The student is led to see that, for example, work under a variable force is a reasonable generalization of work under a constant force. This emphasis on fundamental ideas gives the background needed by the student learning calculus as an aid to research in the social sciences.

BACON—Differential and Integral Calculus
By HAROLD M. BACON, Stanford University. Second Edition.
547 *pp.*, 6 *x* 9, *illus.* (1955).....$7.95*c*
This is a highly readable and precise treatment of the theory of calculus illustrated by numerous examples and exercises, both simple and challenging. To build knowledge of the student gradually and avoid confusion, the text follows the traditional order.
CONTENTS—Introduction. Functions and Limits. The Derivative. General Rules for Differentiation of Algebraic Functions. Simple Applications of the Derivative. Differentiation of Trigonometric and Inverse Trigonometric Functions. Differentiation of Logarithmic and Exponential Functions. The Differential. Further Applications of Derivatives and Differentials. Polar Coordinates. Theorem of the Mean, Indeterminate Forms, and Taylor's Theorem. Integration, Standard Forms. Methods of Integration. The Definite Integral. Geometric Applications of the Definite Integral. Physical Applications of the Definite Integral. Partial Differentiation. Multiple Integrals. Infinite Series. Introduction of Differential Equations. Brief Table of Integrals. Answers to Odd-numbered Problems.

FORD AND FORD—Calculus
By LESTER R. FORD, SR., Emeritus, Illinois Institute of Technology; and LESTER R. FORD, JR., C-E-I-R, Inc., Los Angeles Research Center.
480 *pp.*, 6⅜ *x* 9¼, 200 *illus.* (1963).$7.95*c*
Designed for a full year's course in the differential and integral calculus, this book is short and succinct without sacrificing reader motivation and understanding, or mathematical rigor, or depth and breadth of coverage of the usual topics of such a course. Adequate sets of suitable and interesting problems are included. A significant achievement of this text is the production of rigorous proofs of all theorems,

† *Textbook edition available at educational list price.*

which are nonetheless short and simple enough for student understanding. An outstanding feature is the authors' use of a visual and conceptual device called a "frame"—an original concept which should help students to understand the difficult ideas of limits and the limiting process; it is used throughout the book in both text and illustrations.

CONTENTS—Sets of Numbers. Functions and Continuity. Limits. Differentiation I. Differentiation II. Maxima and Minima. Integration. Definite Integrals. Geometric Applications of Definite Integrals. Logarithms and Exponentials. Arc Length and Curvature. Polynomials. Methods of Integration. Physical Applications of Integration. The Computation of Functions. Infinite Series. Multiple Integrals. Partial Differentiation. Answers. Index.

FRANKLIN—Compact Calculus

By PHILIP FRANKLIN, MIT.

256 *pp.*, 6 *x* 9 (1963).....$6.50*c*

This is a short, modern introduction to elementary calculus. It aims to present the essential topics of calculus, at a high level of rigor, stating results in theorems whenever possible and indicating when advanced theorems are used without proof. Uses modern notation whenever expeditious. Suitable for half or full year courses. Prerequisites: a background of trigonometry and algebra.

CONTENTS—Functions. Derivatives, Limits. The Definite Integral as a Limit. Differentiation of Algebraic Functions and Logarithms. Trigonometric and Hyperbolic Functions. Differentials. Applications of Differentiation. Integration as Antidifferentiation. Geometric Applications of Definite Integrals. Physical Applications of Definite Integrals. Polar Coordinates, Curvature. Infinite Series. Partial Derivatives, Multiple Integrals. Index.

FRANKLIN—Differential and Integral Calculus

By PHILIP FRANKLIN, Massachusetts Institute of Technology.

638 *pp.*, 6 *x* 9, 367 *illus.* (1953).....$7.95*c*

A complete, basic text for the full-year course for engineers and science majors. A course suitable for the average class will be found in the sections in full-sized type. A number of sections in smaller type, marked "R," contain review material from trigonometry and analytic geometry. There is also a series of sections in smaller type marked with an asterisk. These contain optional material of a specialized or advanced nature, suitable for work with more capable students.

CONTENTS—Preface. Limits of Functions. Rates and Derivatives. Behavior of a Polynomial—Greatest Value. Algebraic Expression—Related Rates. Integration. Algebraic Curves. Trigonometric Functions. Logarithms and Exponential Functions. Parametric Equations—Curvature. Polar Coordinate Differentials. The Definite Integral. Methods of Integration. Applications of Integration—Moments, Infinite Series. Taylor's Series —Indeterminate Forms. Partial Differentiation—Envelopes. Vectors and Surfaces in Space. Multiple Integrals. Differential Equations. Tables. Index.

MIDDLEMISS—Differential and Integral Calculus

By Ross R. MIDDLEMISS, Washington University. Second Edition.

497 *pp.*, 5½ *x* 8, 218 *illus.* (1946)..$6.95*c*

Intended for the usual beginning course, this book is unique in that it maintains a high degree of accuracy, and is at the same time exceptionally clear and readable. Planned to give the student a real understanding of the principal concepts of the subject. To this end each fundamental idea is allowed to rise in a natural way and is then developed in a manner which encourages the student to give it calm and deliberate consideration.

CONTENTS—Functions and Their Graphs. The Limit of a Function. The Derivative. Differentiation of Algebraic Functions. Applications of the Derivative. The Second Derivative. The Trigonometric Functions. The Exponential and Logarithmic Functions. Derivative of Arc. Curvature. Parametric Equations. Collection of Formulas. Review Problems. The Limit of a Function. The Differential. Integration. Applications of the Indefinite Integral. Trigonometric Integrals. Methods of Integration. The Definite Integral. Further Applications of the Definite Integral. Approximate Integration. First Moment. Centroid. Second Moment. Radius of Gyration. Liquid Pressure. Work. Solid Analytic Geometry. Partial Derivatives. Multiple Integrals. Infinite Series. Expansion of Functions. Differential Equations.

WYLIE—Calculus

By C. R. WYLIE, University of Utah.

565 *pp.*, 6 *x* 9, 214 *illus.* (1953)....$7.95*c*

A text covering all the material usually taught in the first-year course in calculus, including a review of solid analytic geometry and an introduction to ordinary differential equations. It is both theoretically sound and thoroughly practical. The book is so organized that, by making a judicious choice from among the many worked examples, an instructor can equally well meet the needs and interests of a class of mathematics majors or a class of engineering students.

CONTENTS—Preface. The Calculus in Perspective. Limits and Continuity. Formal Differentiation. Geometrical Applications of Differentiation. The Theory of Integration. Integration by Formula. Formal Integration by Special Devices. Related Rates and Motion. Geometrical Applications of Integration. Physical Applications of Integration. Hyperbolic Functions. Partial Differentiation. Infinite Series. The Expansion of Functions. Multiple Integration. Differential Equations. Appendix. Index.

BUCK—Advanced Calculus

By R. CREIGHTON BUCK, University of Wisconsin. *Int'l Series in Pure & App. Math.*

432 *pp.*, 6 *x* 9, 118 *illus.* (1956).....$8.75*c*

The purpose of this text is to review elementary calculus with rigor, but without retracing already familiar ground; to give a systematic and modern approach to the differential and integral calculus of functions and transformations; to develop analytical techniques for attacking some of the typical problems which arise in applications of mathematics; and to introduce the student to modern points of view in mathematics. There are approximately 450 exercises of varying difficulty with answers to most of them as well as hints for the more difficult ones.

CONTENTS—Preface. Elementary Topology. Functions. Integration. Convergence. Differentiation. Applications to Geometry and Analysis. Elements of Differential Geometry. Appendix: Foundations of the Number System. Answers and Hints. Index.

FRANKLIN—Methods of Advanced Calculus

By PHILIP FRANKLIN, Massachusetts Institute of Technology.

486 *pp.*, 5¼ *x* 8¼, 162 *illus.* (1944)..$9.50*c*

Starts by refreshing and extending the reader's knowledge of elementary calculus and goes on to present the aspects of advanced calculus most needed in applied mathematics. It covers in an extensive treatment such advanced topics as special higher mathematical functions, vector analysis, ordinary and partial differential equations.

CONTENTS—Elementary Functions for Complex Values and Taylor's Series. Partial Differentiation and Implicit Functions. Vectors, Curves, and Surfaces in Space. Integration. The Definite Integral. Multiple Integrals. Line Integrals. Complex Variables. The Gamma Function and Related Definite Integrals. Elliptical Integrals. Vector Analysis. Differential Equations. Legendre Polynomials and Bessel Function. Fourier Series and Partial Differential Equations. The Calculus of Variations and LaGrange's Equations.

SOKOLNIKOFF—Advanced Calculus
By IVAN S. SOKOLNIKOFF, University of California, Los Angeles.
446 *pp.*, 6 x 9 (1939).....$9.50*c*
Intended for students of both pure and applied mathematics, this book seeks to develop a critical attitude toward analytical processes and to lay a firm foundation in mathematical analysis. Such fundamental concepts as continuity, convergence, limits, etc., are treated with an unusual degree of care.
CONTENTS—Limits and Continuity; Derivatives and Differentials; Functions of Several Variables; Definite Integrals; Multiple Integrals; Line Integrals; Infinite Series; Power Series; Applications of Power Series; Improper Integrals; Fourier Series; Implicit Functions.

Differential Geometry

AUSLANDER AND MACKENZIE—Introduction to Differentiable Manifolds
By LOUIS AUSLANDER, Purdue Univ., and ROBERT E. MACKENZIE, Indiana Univ. *Series in Higher Math.*
232 *pp.*, 6 x 9 (1963).....$9.95*c*
Manifold theory is one of the most active areas of mathematical research today. Treats the subject at the introductory level. It is specifically designed to give the novice an understanding of the field through a well-organized presentation of the basic concepts in the modern global approach to differential geometry. The choice of topics—manifolds, algebraic varieties, Lie groups, fiber bundles—introduces those geometric structures that have come to play such a central role in modern geometry.
CONTENTS—Euclidean, Affine, and Differentiable Structure on R^n. Differentiable Manifolds. Projective Spaces and Projective Algebraic Varieties. The Tangent Bundle of a Differentiable Manifold. Submanifolds and Riemann Metrics. The Whitney Imbedding Theorem. Lie Groups and Their One-parameter Subgroups. Integral Manifolds and Lie Subgroups. Fiber Bundles. Multilinear Algebra.

GUGGENHEIMER—Differential Geometry
By HEINRICH GUGGENHEIMER, Univ. of Minnesota. *Series in Higher Math.*
368 *pp.*, 6 x 9, 72 *illus.* (1963).....$12.50*c*
A senior-graduate text of local differential geometry as an application of advanced calculus and linear algebra. Beginning from a modest geometric background, it offers a development which is both rigorous and modern.

The presentation is based on the group theoretic approach of F. Klein and E. Cartan. Full background material on transformation groups and a complete coverage of the local theory of Lie groups and transformation groups is provided. There is a parallel treatment of Euclidean and affine differential geometry.
CONTENTS—Elementary Differential Geometry. Curvature. Evolutes and Involutes. Calculus of Variations. Introduction to Transformation Groups. Lie Group Germs. Transformation Groups. Space Curves. Tensors. Surfaces. Inner Geometry of Surfaces. Affine Geometry of Surfaces. Riemannian Geometry. Connections. Answers to Selected Exercises.

Differential Equations

AGNEW—Differential Equations
By RALPH P. AGNEW, Cornell University. Second Edition.
485 *pp.*, 6 x 9, *illus.* (1960).....$7.95*c*
A thoroughly rewritten and reorganized version of a top-bracket work widely used and widely praised by teachers everywhere. The new edition is even easier to teach and easier to understand, with more ample explanations, more and simpler problems—in spite of the fact that subject matter on a more advanced level has been added in many places. The treatment of numerical methods has been greatly expanded, and a new chapter on Laplace transforms has been added. The problems are outstanding.
CONTENTS—Introduction to Differential Equations. Applications of Principles of Calculus. Linear Equations of First Order. Families of Curves; Equations of Higher Degree. Differential Equations of First Order. Linear Differential Equations. Use of Series. Numerical Methods. Laplace Transforms. Bending of Beams. Series Expansions of Operators. Eigenvalues, Fourier Series, and Partial Differential Equations. Limits, Derivatives. Integrals. The Heat Equation. Picard's Method of Approximating Solutions of $y = f(x,y)$; Existence Theorems. Approximations to Solutions and Existence Theorems for Equations of Higher Order and for Systems of Equations. INDEX.

EPSTEIN—Partial Differential Equations
An Introduction
By BERNARD EPSTEIN, Yeshiva University, New York. *Int'l Series in Pure & App. Math.*
273 *pp.*, 6 x 9, 12 *illus.* (1962).....$9.50*c*
Rigorously treats the several most important parts of the theory of partial differential equations and of the closely related subject, integral equations. This introductory text emphasizes theory. However, the student mastering its contents should effectively make use of the material presented in problems of a concrete nature.
CONTENTS—SOME PRELIMINARY TOPICS. Equicontinuous Families of Functions. The Weirstrass Approximation Theorem. The Fourier Integral. The Laplace Transform. Ordinary Differential Equations. Lebesgue Integration. Dini's Theorem. PARTIAL DIFFERENTIAL EQUATIONS OF FIRST ORDER. Linear Equations in Two Independent Variables. Quasi-Linear Equations. The General First-order Equation. THE CAUCHY PROBLEM. Classification of Equations with Linear Principal Parts. Characteristics. Canonical Forms. The Cauchy Problem for Hyperbolic Equations. The One-dimensional Wave Equation. The Riemann Function. Classification of Second-order Equations in Three or More Independent Variables. The Wave Equation in Two and Three Dimensions. THE FREDHOLM ALTERNATIVE IN BANACH SPACES. Linear Spaces. Normed Linear Spaces. Banach Spaces. Linear Functionals and Linear Operators. The Fredholm Alternative. THE FREDHOLM ALTERNATIVE IN HILBERT SPACES. Inner-product Spaces. Hilbert Spaces. Projections, Linear Functionals. Adjoint Operators. Hermitian and Completely Continuous Operators. The Fredholm Alternative. Integral Equations. Hermitian Kernels. Illustrative Example. ELEMENTS OF POTENTIAL THEORY. Introduction. Laplace's Equation and Theory of Analytic Functions. Fundamental Solutions. The Mean-value Theorem. The Maximum Principle. Formulation of the Dirichlet Problem. Solution of the Dirichlet Problem for the Disc. The Converse of the Mean-value Theorem. Convergence Theorems. Strengthened Form of the Maximum Principle. Single and Double Layers. Poisson's Equation. THE DIRICHLET PROBLEM. Subharmonic Functions. The Method Balayage. The Perron-Remak Method. The Method of Integral Equations. The Dirichlet Principle. The Method of Finite Differences. Conformal Mapping. THE HEAT EQUATION. The Initial-value Problem for the Infinite Rod. The Simplest Problem for the Semi-infinite Rod. The Finite Rod. GREEN'S FUNCTIONS AND SEPARATION OF VARIABLES. The Vibrating String. The Green's Function of the Operator $\frac{d^2}{dx^2}$. The Green's Function of a Second-order Differential Operator. Eigenfunction Expansions. A Generalized Wave Equation. Extension of the Definition of Green's Functions.

FORD—Differential Equations
By LESTER R. FORD, formerly Illinois Institute of Technology. Second Edition.
288 *pp.*, 6 x 9, *illus.* (1955).....$6.95*c*
Covers ordinary and partial differential equations. Among the topics included are interpolation and numerical integration and the numerical solution of differential equations. The introductory chapters stress the geometric

approach and the elementary methods and lead by easy stages into the varied applications of the subject. These are followed by accurate statements and rigorous proofs of existence theorems, constituting the foundation for the later methods of numerical solutions.

CONTENTS—A Short Course. Introduction to Differential Equations. Special Methods for the Equation of the First Order. Linear Equations of the Second Order. General Linear Equations. The Method of Successive Approximations. Systems of Ordinary Equations. Certain Classical Equations. Interpolation and Numerical Integration. The Numerical Solution of Differential Equations. Partial Differential Equations of the First Order. Partial Differential Equations of the Second Order.

GOLOMB AND SHANKS—Elements of Ordinary Differential Equations

By MICHAEL GOLOMB, Institute of Advanced Study, Princeton, and M. E. SHANKS, Purdue University. *Int'l Series in Pure & App. Math.*

352 *pp.*, 6 *x* 9, 50 *illus.* (1950).....$6.95*c*

A carefully planned college text for the standard course as it is offered to engineering students. Will also fit many courses for non-engineering students. The book attains precision in statements without sacrificing clarity or becoming too involved with questions of rigor. The subject is presented in such a way as to stimulate the student's imagination and at the same time to inculcate correct mathematical thinking. Physical applications are emphasized, and many techniques not usually found in textbooks are included.

CONTENTS—Review and Collection of Formulas. Geometric Fundamentals for First-order Differential Equations. Techniques for Solving First-order Equations. Applications. Second-order Differential Equations. Linear Differential Equations of Higher Order. Constant Coefficient. Algebra of Inverse Operators. Systems of Linear Differential Equations. Linear Equations with Variable Coefficients. Solution in Power Series. Some Classical Equations. Appendices. Bibliography. Answers. Index.

GREENSPAN—Introduction to Partial Differential Equations

By DONALD GREENSPAN, Purdue University, U.S. Army, University of Wisconsin. *Int'l Series in Pure & App. Math.*

208 *pp.*, 6 *x* 9, 22 *illus.* (1961).....$7.50*c*

Unifying mathematical theory combined with practical aspects of the subject sets this text apart from other works in the vital field of partial differential equations. Designed for a one-semester course, the book is introductory in style and nature. The only mathematical requirement is a facility with advanced calculus. The equations considered have extensive physical applications: the wave, heat, and potential equations are studied in detail. A feature is the fine series of exercises of varying degrees of difficulty.

CONTENTS—BASIC CONCEPTS. Sets. Plane Point Sets. Remarks on Real Functions. Ordinary Differential Equations. Remarks on Complex-valued Functions. Exercises. FOURIER SERIES. Trigonometric and Fourier Series. Half-range Series. Change of Interval. Differentiation of Fourier Series. Absolute and Uniform Convergence. A Weierstrass Approximation Theorem. Abel's Test. Exercises. SECOND-ORDER PARTIAL DIFFERENTIAL EQUATIONS. Partial Differential Equations. The Initial-value Problem. Characteristics. Canonical Forms. Exercises. THE WAVE EQUATION. The Homogeneous Wave Equation. The First Cauchy Problem. The Second Cauchy Problem. The Mixed-type Problem. The Method of Separation of Variables. Exercises. THE POTENTIAL EQUATION. The Dirichlet Problem. Poisson's Integral Formula. Further Properties of Harmonic Functions. On the Dirichlet Problem. Dirichlet Problems on a Square. Exercises. THE HEAT EQUATION. The Boundary-value Problem of Type H. Series Solution of Boundary-value Problems of Type H. Exercises. APPROXIMATE SOLUTION OF PARTIAL DIFFERENTIAL EQUATIONS. Lattice Points. Approximate Solution of the Dirichlet Problem. Mathematical Basis of the Liebmann-Gerschgorin-Collatz Procedure. Methods for Cauchy Problem I. Cauchy Problem II, the Mixed-type Problem, and the Boundary-value Problem of Type H. Exercises. SURVEY OF OTHER TOPICS. Other Methods of Solution. The Cauchy-Kowalewski Theorem. Remarks about Nonlinear Partial Differential Equations. SELECTED BIBLIOGRAPHY. INDEX.

KELLS—Elementary Differential Equations

By LYMAN M. KELLS, United States Naval Academy. Fifth Edition.

318 *pp.*, 6 *x* 9, 120 *illus.* (1960)....$6.95*c*

In the fifth edition of this perennial favorite, the author seeks to present the basic theory in simple, logical, easily understood stages, together with applications of outstanding importance. The book considers the instructive older methods of solving differential equations, and also treats newer efficient methods, such as those based on operators and Laplace transforms. Also, since computing machines have taken over the work of computation, some outstanding methods of numerical approximation have been included.

CONTENTS—Definitions and Elementary Problems. Applications. Differential Equations of the First Order and the First Degree. Applications Involving Differential Equations of the First Order. First-order Equations of Degree Higher than the First. Linear Differential Equations with Constant Coefficients. Laplace Transforms. Applications of Linear Equations with Constant Coefficients. Miscellaneous Differential Equations of Order Higher than the First. Applications. Existence Theorems and Applications. Solution by Series. Numerical Solutions of Differential Equations. Partial Differential Equations. Applications of Partial Differential Equations.

STRUBLE—Nonlinear Differential Equations

By RAIMOND A. STRUBLE, North Carolina State College. *Int'l Series in Pure & App. Math.*

267 *pp.*, 6 *x* 9, 49 *illus.* (1961).....$7.50*c*

A brief text for a one-semester advanced undergraduate or beginning graduate course in the subject. Prepared with the needs of the applied mathematician, engineer, and physicist in mind, it provides for rapid contact with a majority of the mathematically significant concepts of nonlinear differential equations, while imposing but modest demands on the reader for previous mathematical experience. Practical and theoretical aspects are kept in proper perspective, and unusual care has been taken to insure pertinence and usefulness to readers interested in applications.

YATES—Differential Equations

By ROBERT C. YATES, College of William and Mary.

212 *pp.*, 6 *x* 9, 84 *illus.* (1952).....$5.95*c*

Designed to prepare students for work in modern engineering practice and theory; to present the basic mathematical tools necessary for analysis and solution of problems leading to differential equations; and to stimulate a sincere and lasting interest in the subject.

CONTENTS—Preface. Definitions; Formation of Equations; Physical and Geometrical Interpretations. Separation of Variables and Homogencity. Equations of First Order, First Degree; the Bernoulli Equations; Integrable Forms. Summary and Review Problems. The Linear Equation with Constant Coefficients, Right Member Zero. The Linear Equation of Second and Higher Order with Constant Coefficients, Right Member Not Zero; Equations with Variable Coefficients. The Derivative Operator. Summary and Review Problems. Some Special Forms and Their Applications. Approximate Numerical Solutions. Summary and Review Problems. Solutions in Series. The Legendre and Bessel Equations; The Gamma Function. Expansions. Summary and Review Problems. Engineering Problems Leading to Partial Differential Equations. The Wave Equation and Separation of Variables. Fourier Analysis. Review and General Summary. Index.

BELLMAN—Stability Theory of Differential Equations

By RICHARD BELLMAN, The Rand Corporation. *Int'l Series in Pure & App. Math.*
166 *pp.*, 6 x 9 (1953).....$6.95*c*

This important, advanced mathematics text furnishes an introduction to the modern theory of stability and asymptotic behavior of solutions of linear and nonlinear differential equations. The treatment is the first in English to cover that part of the modern theory of boundedness, stability, and asymptotic behavior of linear and nonlinear differential equations which is distinct from the theory of periodic solutions.

CONTENTS—CHAPTER I. Fundamental Properties of Linear Systems. Vector Matrix Notation. Simple Transformation of Matrices. CHAPTER II. Determining the Asymptotic Behavior of Solutions of Equations Whose Coefficients Are Nearly Constant. Obtaining Approximations of Arbitrarily High Order. Asymptotic Series. A Discussion of the Concept of Stability. CHAPTER III. Existence and Uniqueness Theorems for Nonlinear Systems. CHAPTER IV. Fundamental Results of Poincaré and Liapounoff Concerning the Stability of Solutions of Nonlinear Systems. CHAPTER V. Study of Real Solutions of the Polynomial Equation $P(t, u, du/dt) = 0$. CHAPTER VI. Study of the Equation $ua(t)u = 0$. CHAPTER VII. A Particular Nonlinear Equation of the Form $u''t^m u^n = 0$.

CODDINGTON AND LEVINSON—Theory of Ordinary Differential Equations

By EARL A. CODDINGTON, University of California, Los Angeles, and NORMAN LEVINSON, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Math.*
429 *pp.*, 6 x 9, 24 *illus.* (1955).....$9.75*c*

The authors seek to develop an understanding of the classical equations and to present broad theoretical principles as well as a reference of the applications of ordinary differential equations. They have done considerable research on this subject and the sections of the book on singular eigenvalue problems and periodic solutions are based mainly on their original work.

CONTENTS—Preface. Existence and Uniqueness of Solutions. Existence and Uniqueness of Solutions (continued). Linear Differential Equations. Linear Systems with Isolated Singularities: Singularities of the First Kind. Linear Systems with Isolated Singularities: Singularities of the Second Kind. Asymptotic Behavior of Linear Systems Containing a Large Parameter. Self-adjoint Eigenvalue Problems on a Finite Interval. Oscillation and Comparison Theorems for Second-order Linear Equations and Applications. Singular Self-adjoint Boundary-value Problems for Second-order Equations. Singular Self-adjoint Boundary-value Problems for *n*th-order Equations. Algebraic Properties of Linear Boundary-value Problems on a Finite Interval. Non-self-adjoint Boundary-value Problems. Asymptotic Behavior of Nonlinear Systems: Stability. Perturbation of Systems Having a Periodic Solution. Perturbation Theory of Two-dimensional Real Autonomous Systems. The Poincaré-Bendixson Theory of Two-dimensional Autonomous Systems. Differential Equations on a Torus. Index.

SNEDDON—Elements of Partial Differential Equations

By IAN N. SNEDDON, University of Glasgow. *Int'l Series in Pure & App. Math.*
345 *pp.*, 6 x 9, 50 *illus.* (1957).....$8.95*c*

Presents the elements of the theory of partial differential equation in a form suitable for the use of students and research workers whose main interest in the subject lies in finding solutions of particular equations rather than in the general theory. Emphasis is on the numerous powerful applications of the equations to the solution of a wide variety of problems in physics and engineering. Many worked examples and practical problems are included.

CONTENTS—Ordinary Differential Equations in More than Two Variables; Partial Differential Equations of the First Order; Partial Differential Equations of the Second Order; Laplace's Equation; The Wave Equation; The Diffusion Equation; Appendix; Systems of Surfaces; Solutions to the Odd-numbered Problems; Index.

Theory of Equations

USPENSKY—Theory of Equations

By J. V. USPENSKY.
353 *pp.*, 6 x 9, 21 *illus.* (1948).....$6.50*c*
*McG-H Paperbacks Ed.**

A fairly rigorous text for the undergraduate course in this subject. An outstanding feature of the book is the thoroughness with which the subject is treated. Full and explicit development of the material makes the text almost self-sufficient and thus valuable for reference purposes. Throughout the book, emphasis has been placed on both theory and numerical methods.

CONTENTS—Preface. Complex Numbers. Polynomials in One Variable. Algebraic Equations and Their Roots. Limits of Roots. Rational Roots. Cubic and Biquadratic Equations. Separation of Roots. The Theorem of Sturm. Approximate Evaluation of Roots. Determinants and Matrices. Solution of Linear Equations by Determinants. Some Applications of Determinants to Geometry. Symmetric Functions. Elimination. Appendices. Answers. Index.

* *Available only through your local bookstore.*

Theory of Numbers

GRIFFIN—Elementary Theory of Numbers

By HARRIET GRIFFIN, Brooklyn College. *Int'l Series in Pure & App. Math.*
203 *pp.*, 6 x 9, *illus.* (1954).....$5.95*c*
*McG-H Paperbacks Ed.**

Here is a thorough treatment of the elementary theory of numbers designed to convey an understanding of the fundamental concepts of the subject to the undergraduate or graduate student. It aims not only to increase his store of information, but also to stimulate the student's insight and to develop his powers of analysis by means of graded problems. All important material on the arithmetic theory of numbers is included and the volume is distinguished by its complete examination, early in the book, of the basic principles upon which all proofs are based.

CONTENTS—The Fundamental Laws. The Linear Diophantine Equation. Properties of Integers. Properties of Congruences. The Solution of Congruences. The Theorems of Fermat and Wilson and the Möbius Function. On Belonging to an Exponent. Indices. Quadratic Residues. Some Famous Problems. Polynomials. Partitions.

* *Available only through your local bookstore.*

ORE—Number Theory and Its History

By OYSTEIN ORE, Yale University.
370 *pp.*, 5½ x 8, 36 *illus.* (1948)....$7.50*c*

For undergraduate courses in mathematics, both majors and non-majors, this text gives an account of some of the main methods, principles, and problems underlying the theory of numbers, with emphasis on historical development. The book presupposes only an elementary background of mathematics. Some algebraic concepts are included. Problems appear after each section.

CONTENTS—Preface. Counting and Recording of Numbers. Properties of Numbers. Division. Euclid's Algorism. Prime Numbers. The Aliquot Parts. Indeterminate Problems. Theory of Linear Indeterminate Problems. Diophantine Problems. Congruences. Analysis of Congruences. Wilson's Theorem and Its Consequences. Euler's Theorem and Its Consequences. Theory of Decimal Expansions. The Converse of Fermat's Theorem. The Classical Construction Problems. Bibliography. General Name Index. Subject Index.

USPENSKY AND HEASLET—Elementary Number Theory

By J. V. USPENSKY, and M. A. HEASLET, National Advisory Committee for Aeronautics, Moffett Field, California.

484 *pp.*, 5½ *x* 8 (1939).....$7.95*c*

This interesting book develops systematically the more elementary portions of number theory in a way adapted particularly for the classroom and the beginning student. The treatment is unusually thorough and explicit, without being pedantic, and an effort has been made to present rather difficult topics in a lucid and stimulating manner. Historical notes and some material from recreational mathematics are included.

CONTENTS—Elementary Properties of Integers. Divisibility and Related Topics. Diophantine Equations of the First Degree. On Prime Numbers. A General Combinatorial Theorem and Its Applications. On the Congruence of Numbers. Congruence with One Unknown. Lagrange's Theorem and Its Applications. Residues of Powers. Arithmetical Properties of Bernoullian Numbers. Quadratic Residues. Some Problems Connected with Quadratic Forms. Some Diophantine Problems. Liouville's Methods.

WEISS—Algebraic Number Theory

By EDWIN WEISS, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Math.*

256 *pp.*, 6 *x* 9, *illus.* (1963).....$9.95*c*

The author emphasizes careful organization and clear, detailed proofs in this senior-graduate text and reference for mathematics students. In a reasonably self-contained manner the book presents the basic classical results of algebraic number theory, intended particularly for the reader without previous background in the subject. Modern techniques are emphasized, but an attempt has been made not to lose sight of the classical approach.

CONTENTS—ELEMENTARY VALUATION THEORY. Valuations and Prime Divisors. The Approximation Theorem. Archimedean and non-Archimedean Prime Divisors. The Prime Divisors of Q. Fields with a Discrete Prime Divisor. e and f. Completions. The Theorem of Ostrowski. Complete Fields with Discrete Prime Divisor. Exercises. EXTENSION OF VALUATIONS. Uniqueness of Extensions (complete case). Existence of Extensions (complete case). Extensions of Discrete Prime Divisors. Extensions of the General Case. Consequences. Exercises. LOCAL FIELDS. Newton's Method. Unramified Extensions. Totally Ramified Extensions. Tamely Ramified Extensions. Inertia Group. Ramification Groups. Different and Discriminant. Exercises. ORDINARY ARITHMETIC FIELDS. Axioms and Basic Properties. Ideals and Divisors. The Fundamental Theorem of OAF's. Dedekind Rings. Over-rings of O. Class Number. Mapping of Ideals. Different and Discriminant. Factoring Prime Ideals in an Extension Field. Hilbert Theory. Exercises. GLOBAL FIELDS. Global Fields and the Product Formula. Adèles, Idèles, Divisors, and Ideals. Unit Theorem and Class Number. Class Number of an Algebraic Number Field. Topological Considerations. Relative Theory. Exercises. QUADRATIC FIELDS. Integral Basis and Discriminant. Prime Ideals. Units. Class Number. The Local Situation. Norm Residue Symbol. CYCLOTOMIC FIELDS. Elementary Facts. Unramified Primes. Quadratic Reciprocity Law. Ramified Primes. Integral Basis and Discriminant. Units.

Mathematics Topics

AHLFORS—Complex Analysis

An Introduction to the Theory of Analytic Functions of One Complex Variable

By LARS V. AHLFORS, Harvard University. *Int'l Series in Pure & App. Math.*

247 *pp.*, 6 *x* 9, 34 *illus.* (1953).....$7.50*c*

Covers the elements of the theory of functions of a complex variable. The treatment is rigorous but not unduly difficult. Emphasis is on true understanding of the whole structure of the material covered. The reader who has mastered the book will understand the use of complex analysis in physics and related fields; he will also be well equipped for further study of complex function theory.

CONTENTS—Preface. COMPLEX NUMBERS. The Algebra of Complex Numbers. The Geometric Representation of Complex Numbers. Linear Transformations. COMPLEX FUNCTIONS. Elementary Functions. Topological Concepts. Analytic Functions in a Region. Elementary Conformal Mappings. COMPLEX INTEGRATION. Fundamental Theorems. Cauchy's Integral Formula. Local Properties of Analytic Functions. The General Form of Cauchy's Theorem. The Calculus of Residues. INFINITE SEQUENCES. Convergent Sequences. Power Series. Partial Fractions and Factorization. Normal Families. THE DIRICHLET PROBLEM. Harmonic Functions. Subharmonic Functions. Canonical Mapping of Multiple-connected Regions. MULTIPLE-VALUED FUNCTIONS. Analytic Continuation. Algebraic Functions. Linear Differential Equations. Index.

CURRY—Foundations of Mathematical Logic

By HASKELL B. CURRY, The Pennsylvania State University. *Series in Higher Math.*

420 *pp.*, 6 *x* 9, *illus.* (1963).....$11.50*c*

Seeks to give a thorough account of a part of mathematical logic which is truly fundamental, not in a theoretical or philosophical sense, but from the standpoint of the student; a part that needs to be thoroughly understood, not only by those who will later become specialists in logic, but by all mathematicians, philosophers, and scientists whose work impinges upon logic. The part of mathematical logic treated here may be described as the constructive theory of the first order predicate calculus. The book is thoroughly documented and contains copious references for supplementary purposes.

CONTENTS—INTRODUCTION. The Nature of Mathematical Logic. The Logical Antinomies. The Nature of Mathematics. Mathematics and Logic. Supplementary Topics. FORMAL SYSTEMS. Preliminary; Exercises and Theories. Systems. Special Forms of Systems. Algorithms. Supplementary Topics. EPITHEORY. The Nature of Epitheory. Replacement and Monotone Relations. The Theory of Definition. Variables. Supplementary Topics. RELATIONAL LOGICAL ALGEBRA. Logical Algebra in General. Lattices. Classical Skolem Lattices. Supplementary Topics. THE THEORY OF IMPLICATION. General Principles of Assertional Logical Algebra. Propositional Algebras. The Systems L*A* and L*C*. Equivalence of the Systems. L-deducibility. Supplementary Topics. NEGATION. The Nature of Negation. L-systems for Negation. Other Formulations of Negation. Technique of Classical Negation. Supplementary Topics. QUANTIFICATION. Formulation. Theory of the L-systems. Other Forms of Quantification Theory. Classical Epitheory. Supplementary Topics. MODALITY. Formulation of Necessity. The L-theory of Necessity. The T- and H-formulations of Necessity. Supplementary Topics.

EISENMAN—Matrix Vector Analysis

By CAPT. RICHARD L. EISENMAN, U.S. Air Force Academy.

314 *pp.*, 5⅝ *x* 8, 103 *illus.* (1963).$5.95*c*
Soft-cover Ed. $3.95*c*

Blends matrix algebra with traditional vector analysis, using physical ideas freely to illustrate and motivate mathematical concepts. However, the continuity of development is mathematical rather than physical. Each idea is introduced through motivated examples and is interpreted in its physical, algebraic, and geometric contexts, and generalized to theorems which display its essential structure.

CONTENTS—Static Vectors in 3-space. Functions of One Variable. Vector and Scalar Fields. Coordinate Systems. Applications of Matrices. Practical Abstractions.

EXNER AND ROSSKOPF—Logic in Elementary Mathematics

By ROBERT M. EXNER, Syracuse University, and MYRON F. ROSSKOPF, Teachers College, Columbia University.

274 *pp.*, 6 *x* 9 (1959).....$6.75*c*

Presents some of the structure of modern symbolic logic that is useful in the exposition of elementary mathematics, and uses the logic in the discussion of formal aspects of elementary mathematics. The material is presented so that it will be accessible to those whose mathematical training includes the standard elementary courses, but who may lack any formal courses in logic. Exercises and examples are included in appropriate places as an aid to mastery of the logical language.

CONTENTS—Preface. Mathematics, Formal Logic, and Names. The Statement Calculus. Proof. Abstract Mathematical Systems. The Restricted Predicate Calculus. Applications of Logic in Mathematics. Appendix—Symbolic Treatment of the Miniature Geometry.

GARDNER—Logic Machines and Diagrams

By MARTIN GARDNER.

259 *pp.*, 6 *x* 9, 96 *illus.* (1958)

Cloth Edition $5.00*t*

*McG-H Paperbacks Ed.**

A complete survey of mechanical and electrical machines and geometrical methods for solving problems in formal logic. The treatment begins with the crude, eccentric logic of the Spanish mystic, Ramon Lull, goes through such topics as logic diagrams, network diagrams for the propositional calculus, the Stanhope demonstrator, Jevons' logic machine, the Marquand machine and others, and concludes with the complex, efficient electrical machines of today. The growing utility of such devices in an automated age is emphasized, and the future applications of logic machines to such fields as operations research, information storing and processing, and efficient circuit designing, is discussed.

CONTENTS—The Ars Magna of Ramon Lull. Logic Diagrams. A Network Diagram for the Propositional Calculus. The Stanhope Demonstrator. Jevon's Logic Machine. Marquand's Machine and Others. Electrical Logic Machines. The Future of Logic Machines.

* *Available only through your local bookstore.*

GRAVES—The Theory of Functions of Real Variables

By LAWRENCE M. GRAVES, University of Chicago. *Int'l Series in Pure & App. Math.* Second Edition.

375 *pp.*, 6 *x* 9 (1956).....$9.00*r*

Designed to introduce the reader to some of the basic concepts of modern analysis, and to rigorous methods of thinking. It also serves as a convenient reference work. It covers the structure and properties of the real number system, basic properties of sets of points in n-space and in metric spaces, the fundamental operations and notions of the calculus, Lebesque and Stieltjes integrals, the general theory of sets, transfinite cardinal and ordinal numbers, and the axiom of choice.

CONTENTS—Introduction. The Real Number System. Point Sets. Functions and Their Limits—Properties of Continuous Functions. Fundamental Theorems on Differentiation. The Riemann Integral. Uniform Convergence. Functions Defined Implicitly. Ordinary Differential Equations. The Lebesque Integral. The Stieltjes Integral. The Theory of Sets and Transfinite Numbers. Metric Spaces.

NEHARI—Conformal Mapping

By ZEEV NEHARI, Carnegie Institute of Technology. *Int'l Series in Pure & App. Math.*

396 *pp.*, 6 *x* 9, 45 *illus.* (1952).....$9.95*c*

An excellent reference on a useful and important technique in advanced calculus. The potential and complex function theories necessary for a full treatment of conformal mapping are developed in four chapters. Theoretical and practical aspects of the subject are both thoroughly covered, and the discussion ranges from fundamental existence theorems to several techniques available for conformal mapping of given geometric figures.

CONTENTS—Preface. Harmonic Functions. Analytic Functions. The Complex Integral Calculus. Families of Analytic Functions. Conformal Mapping of Simply-connected Domains. Mapping Properties of Special Functions. Conformal Mapping of Multiply-connected Domains. Index.

ROSSER—Logic for Mathematicians

By J. BARKLEY ROSSER, Cornell University. *Int'l Series in Pure & App. Math.*

530 *pp.*, 6 *x* 9, 15 *illus.* (1953).....$11.50*c*

A comprehensive treatment of symbolic logic written primarily for the use of mathematicians. It is an exposition of those principles of logic which are used by mathematicians in their daily mathematics. The logic is developed simply from first principles. Then the formal concepts are related directly to the fundamentals of thinking in all fields of mathematics up through the theory of cardinal and ordinal arithmetic. The reader must have a knowledge of mathematics at least through calculus.

CONTENTS—Preface. What Is Symbolic Logic? The Statement Calculus. The Use of Names. Axiomatic Treatment of the Statement Calculus. Clarification. The Restricted Predicate Calculus. Equality. Descriptions. Class Membership. Relations and Functions. Cardinal Numbers. Ordinal Numbers. Counting. The Axiom of Choice. We Rest Our Case. Bibliography. Glossary of Symbols. Index.

RUDIN—Principles of Mathematical Analysis, 2nd Ed.

By WALTER RUDIN, Univ. of Wisconsin. *Int'l Series in Pure & App. Math.*

In Press

Completely revised to include a much more thorough treatment of functions of several variables, and in preparation for this, more material on Euclidean spaces and metric spaces. Many new problems have been added. The arrangement is noteworthy for its well-balanced combination of the classical and modern approach.

CONTENTS—The Real and Complex Number Systems. Elements of Set Theory. Numerical Sequences and Series. Continuity. Differentiation. The Riemann-Stieltjes Integral. Sequences and Series of Functions. Further Topics in the Theory of Series. Functions of Several Variables. The Lebesgue Theory.

SCHWARTZ—Introduction to Matrices and Vectors

By JACOB T. SCHWARTZ, New York University.

173 *pp.*, 6 *x* 9, 21 *illus.* (1961).....$5.50*c*

An elementary, practical introduction, approaching the subject from the computational viewpoint common in high-school mathematics. The treatment is designed for the senior high school or early college student without mathematical sophistication, and is more elementary than most works of this kind. From the beginning, matrices are specific objects with which the student is to compute; exercises attached to each short section give him practice in this. The general theory develops gradually out of specific computations.

CONTENTS—DEFINITION, EQUALITY, AND ADDITION OF MATRICES. Introduction. What Matrices Are. Equality of Matrices; Specification of Matrices. The Zero Matrix. Addition of Matrices. Addition of Matrices (Continued). Addition of Matrices (Concluded). Numerical Multiples of Matrices. MULTIPLICATION OF MATRICES. A Problem Arising in Business Management. Formal Definition of Multiplication. Matrix Multiplication (Continued). The Unit Matrix. The Laws of Matrix Multiplication. Powers of Matrices; Laws of Exponents. Multiplication of Matrices by

Matrices and Multiplication of Matrices by Numbers; Polynomials in a Matrix. Polynomials in a Matrix. DIVISION OF MATRICES. Introduction. Using an Equation Satisfied by a Matrix. The Least Equation Satisfied by a Matrix. Using the Uniqueness of the Least Equation Satisfied by a Matrix to Solve the Problem of Reciprocals. VECTORS AND LINEAR EQUATIONS. Definition of Vectors; Notation and Properties. Vectors and Directed Segments in the Plane. Vectors and Directed Segments in Three-dimensional Space. Geometric Applications of the Algebra of Vectors. Distances, Cosines, and Vectors. More about the Lengths of Vectors. Expressing Systems of Linear Equations in Terms of Vectors and Matrices; Solving by Using Reciprocal Matrices. Solving Systems of Linear Equations of the Method of Elimination. SPECIAL MATRICES OF PARTICULAR INTEREST. The Complex Numbers as Real Matrices. The Quaternion Matrices. Matrices with Complex Entries. MORE ALGEBRA OF MATRICES AND VECTORS. The Transpose Matrix. The Trace of a Matrix. The Cross Product of Matrices. 3 x 3 Skew Matrices and Vectors of Size 3. Geometry of the Cap Product. EIGENVALUES AND EIGEN VECTORS. Matrix Reciprocals and Vectors. Eigenvalues. INFINITE SERIES OF MATRICES. The Geometric Series. The Size of the Entries in the Powers of *A*. The Exponential Series. INDEX.

STOLL—Linear Algebra and Matrix Theory

By ROBERT R. STOLL, Oberlin College, Oberlin, Ohio. *Int'l Series in Pure & App. Math.*

275 *pp.*, 6 *x* 9, 13 *illus.* (1952).....$7.50*c*

A text for college courses in "Modern Algebra." The book is designed to serve the following purposes: to present in the first five chapters topics of algebra that are of ever-increasing importance in a wide variety of fields; to provide the student of engineering or physics with the necessary algebraic background for studying circuit theory, vibration theory, and dynamics of particles; and to introduce students of mathematics to the techniques and point of view of modern algebra via concrete examples from matrix theory while simultaneously studying matrix theory.

CONTENTS—Preface. Systems of Linear Equations. Vector Spaces. Basic Operations for Matrices. Determinants. Bilinear and Quadratic Functions and Forms. Linear Transformations on a Vector Space. Canonical Representations of a Linear Transformation. Unitary and Euclidean Vector Spaces. Notations and Special Symbols. References.

Topology

SIMMONS—Introduction to Topology and Modern Analysis

By GEORGE F. SIMMONS, Colorado College. *Int'l Series in Pure & App. Math.*

392 *pp.*, 6 *x* 9, *illus.* (1963).....$8.95*c*

Part One deals with the many areas which constitute the hard core of fundamental topology in a form general enough to meet the needs of modern mathematics. This section is suitable for a basic one-semester course. For a second semester, Part Two provides applications in modern analysis. These first two parts are richly supplied with problems which illustrate and extend the theory. Part Three is intended for individual study by readers with a reasonable knowledge of complex analysis.

CONTENTS—TOPOLOGY. Sets and Functions. Metric Spaces. Topological Spaces. Compactness. Separation. Connectedness. Approximation. OPERATORS. Algebraic Systems. Banach Spaces. Hilbert Spaces. Finite-dimensional Spectral Theory. ALGEBRAS OF OPERATORS. General Preliminaries on Banach Algebras. The Structure of Commutative Banach Algebras. Some Special Commutative Banach Algebras.

Applied Mathematics

Higher and Applied Mathematics

ALGER—Mathematics for Science and Engineering

By PHILIP A. ALGER, General Electric Co., Schenectady, N. Y.

360 *pp.*, 6 *x* 9, 115 *illus.* (1957).....$7.75*t*†
*McG-H Paperbacks Ed.**

This is a complete revision of *Engineering Mathematics* by the famous Charles P. Steinmetz. Text presents methods and procedures that will enable the student or practicing engineer to find, understand, and apply the mathematical procedures best adapted to solve a particular problem. Aims to help the reader to use mathematics effectively by showing the unity and simplicity of the basic mathematical ideas on the one hand, and by making numerical calculations easy on the other. Book begins with a quick review of arithmetic and goes on through algebra, trigonometry, calculus probability, and linear differential equations. Special emphasis is given to complex numbers, infinite series, and methods of approximation. This text contains about 80 percent of the mathematical procedures and methods which an engineer or technician will need to use in the course of his career. It epitomizes what the student learns in his math courses up to the differential equations level, and serves as a springboard from which the student can go into more advanced work.

CONTENTS—Arithmetic. Trigonometry. Directed Numbers. Algebraic Equations. Infinite Series. Numerical Calculations. Empirical Curves. Differentials and Integrals. Functions. Trigonometric Series. Maxima and Minima. Differential Equations. Probability. Mathematical Models and Electric Circuits.

* *Available only through your local bookstore.*

ALLEN—Relaxation Methods

By D. N. DE G. ALLEN, The University, Sheffield, England.

257 *pp.*, 6 *x* 9, 135 *illus.* (1954).....$8.50*r*
*McG-H Paperbacks Ed.**

A top-level text for engineering students which explains the use of the relaxation method for solving various mathematical problems arising in engineering science and applied physics. The book, written by an outstanding expert in the field, gives a clear and readable exposition of relaxation methods. Emphasis is placed on explaining in detail the arithmetical processes and techniques which must become automatic and instinctive to the successful computer.

CONTENTS—Linear Algebraic Equations. Framework Problems. Ordinary Differential Equations. Laplace's and Poisson's Equations. Normal-gradient Boundary Conditions. The Quasi-plane-potential Equation. The Biharmonic Equation. Simultaneous Differential Equations. Triangular Nets. Eigenvalue Problems (Algebraic Equations). Eigenvalue Problems (Differential Equations). Internal Boundaries and Interfaces. Problems Involving Unknown Boundaries. Non-elliptic Differential Equations. Three-dimensional Relaxation. Appendix. Bibliography. Index.

* *Available only through your local bookstore.*

† *Textbook edition available at educational list price.*

BECKENBACH—Modern Mathematics for the Engineer

Edited by EDWIN F. BECKENBACH, University of California, Los Angeles. *Univ. of Cal. Engg. Exten. Series.*

536 *pp.*, 6 *x* 9, 85 *illus.* (1956).....$9.75*cL*
*McG-H Paperbacks Ed.**

This text and reference presents a broad survey of the application of advanced mathematics to today's rapidly expanding technology. The separate chapters are written by experts well known for their theoretical competence and their practical experience in applied mathematics. This text is unique in its emphasis on the importance of stochastical analysis, the theory of games, operations analysis, and linear, nonlinear, and dynamic programming in modern engineering. The methods and applications of the new high-speed computational procedures is extensively covered.

CONTENTS—Foreword. Preface. Introduction. MATHEMATICAL MODELS. Linear and Nonlinear Oscillations by Solomon Lefschetz. Equilibrium Analysis: The Stability Theory of Poincaré and Liapunov by Richard Bellman. Exterior Ballistics by John W. Green. Elements of the Calculus of Variations by Magnus R. Hestenes. Hyperbolic Partial Differential Equations and Applications by Richard Courant. Boundary-value Problems in Elliptic Partial Differential Equations by Menahem H. Schiffer. The Elastostatic Boundary-value Problems by Ivan S. Sokolnikoff. PROBABILISTIC PROBLEMS. The Theory of Prediction by Norbert Wiener. The Theory of Games by H. Frederic Bohnenblust. Applied Mathematics in Operations Research by Gilbert W. King. The Theory of Dynamic Programming by Richard Bellman. Monte Carlo Methods by George W. Brown. COMPUTATIONAL CONSIDERATIONS. Matrices in Engineering by Louis A. Pipes. Functional Transformations for Engineering Design by John L. Barnes. Conformal Mapping Methods by Edwin F. Beckenbach. Nonlinear Methods by Charles B. Morrey, Jr. What Are Relaxation Methods? by George E. Forsythe. Methods of Steep Descent by Charles B. Tompkins. High-speed Computing Devices and Their Application by Derrick H. Lehmer. Name Index. Subject Index.

* *Available only through your local bookstore.*

BECKENBACH—Modern Mathematics for the Engineer, Second Series

Edited by EDWIN F. BECKENBACH, University of California, Los Angeles. *Univ. of Cal. Engg. Exten. Series.*

456 *pp.*, 6 *x* 9, 67 *illus.* (1961).....$9.75*c*

This volume, designed to keep the reader abreast with the current applicable mathematics developments, is the result of the 1958–1959 series of lectures by experts on advanced applicable mathematics at the University of California, Los Angeles. The topics chosen have had recent spectacular applications in mathematics; have been applied or are likely soon to be applied in physical, sociological, and biological sciences; and involve a degree of mathematical subtlety. Numerous examples and exercises aid the reader's over-all assimilation of the material. This is complementary to the first Volume with entirely new material; the two volumes are most conveniently used together, but either can be used independently.

CONTENTS—MATHEMATICAL METHODS. From Delta Functions to Distributions, Arthur Erdelyi. Operational Methods for Separable Differential Equations, Bernard Friedman. Integral Transformations, John W. Miles. Semigroup Methods in the Theory of Partial Differential Equations, Ralph S. Phillips. Asymptotic Formulas and Series, J. Barkley Rosser. STATISTICAL AND SCHEDULING STUDIES. Chance Processes and Fluctuations, William Feller. Information Theory, David Blackwell. The Mathematical Theory of Control Processes, Richard Bellman. Formulating and Solving Linear Programs, George B. Dantzig. The Mathematical Theory of Inventory Processes, Samuel Karlin. PHYSICAL PHENOMENA. Monte Carlo Calculations in Problems of Mathematical Physics, Stanislaw M. Ulam. Difference Equations and Functional Equations in Transmission-line Theory, Raymond Redheffer. Characteristic-value Problems in Hydrodynamic and Hydromagnetic Theory, Subrahmahyan Chandrasekhar. Applications of the Theory of Partial Differential Equations to Problems of Fluid Mechanics, Paul R. Garabedian. The Numerical Solution of Elliptic and Parabolic Partial Differential Equations, David M. Young, Jr. Circle, Sphere, Symmetrization, and Some Classical Physical Problems, George Polya. NAME INDEX. SUBJECT INDEX.

BELLMAN—Introduction to Matrix Analysis

By RICHARD BELLMAN, The Rand Corporation.

328 *pp.*, 6 *x* 9, 3 *illus.* (1960).....$10.00*c*

Covers three basic fields of the analysis of matrices—symmetric matrices and quadratic forms, matrices and differential equations, and positive matrices and their use in probability theory and mathematical economics. Also provides part of the theoretical treatment for the use of matrices in the computational solution of ordinary and partial differential equations via digital computers. Contains material on dynamic programming and stochastic matrices, and the appendices include a number of important limit theorems associated with the names of Markoff, Perron, and Frobenius.

BRONWELL—Advanced Mathematics in Physics and Engineering

By ARTHUR BRONWELL, Worcester Polytechnic Institute.

475 *pp.*, 6 *x* 9, 89 *illus.* (1953).....$8.50*c*

Advanced mathematics text for senior-graduate students of engineering and physics. Clarity and understanding are primary considerations, although a reasonable degree of mathematical rigor has been achieved. The fundamental physical laws in many of the more important areas of physics and engineering are expressed in general form, and these are used as the springboard for the development of vast areas of applications. The underlying unity in methods of mathematical analysis in the various fields of physics and engineering is emphasized.

CONTENTS—Preface. Infinite Series. Complex Numbers and Hyperbolic Functions. Fourier Series and Fourier Integral. Ordinary Differential Equations. Series Solution of Differential Equations—Bessel and Legendre Equations. Partial Differentiation. Elastic Vibrations and Electric Oscillations—Systems with Lumped Elements. Vibration in Systems with Distributed Elements. Lagrange's Equations. Vector Analysis. Solutions of the Wave Equation. Heat Flow. Dynamics of Fluids. Electromagnetic Theory. Functions of a Complex Variable. Complex Roots of Polynomials and Dynamic Stability. Laplace Transformations. Table of Operations. Table of Laplace Transforms. Problems. Index.

CHURCHILL—Operational Mathematics

By RUEL V. CHURCHILL, University of Michigan. Second Edition.

331 *pp.*, 6 *x* 9, *illus.* (1958).....$7.95*c*

This textbook on the theory and applications of Laplace transforms and other integral transforms was written for students of mathematics, engineering, physics, and other sciences, whose mathematical background has reached the level of advanced calculus. It provides a sound mathematical treatment which will give students not only a working knowledge of operational mathematics, but also a clear understanding of how, when, and why integral transformations can be used. The operational properties of the Laplace transformation are followed in a natural manner by the operational mathematics for various Fourier transformations and their generalizations and by the theory and applications of eigenvalue problems.

CONTENTS—Preface. The Laplace Transformation. Further Properties of the Transformation. Elementary Applications. Problems in Partial Differential Equations. Functions of a Complex Variable. The Inversion Integral. Problems in Heat Conduction. Problems in

Mechanical Vibrations. Sturm–Liouville Systems. Fourier Transforms. Appendixes—1. Bibliography—2. Tables of Operations for the Laplace Transformation—3. Table of Laplace Transforms. Index.

CHURCHILL—Fourier Series and Boundary Value Problems

By RUEL V. CHURCHILL, University of Michigan. Second Edition.

250 *pp.*, 6 *x* 9, *illus.* (1963).....$6.75*c*

As in the highly successful first edition, the purpose is to give a clear, sound introduction to the theory of Fourier series and their generalizations, and to the applications of those series in solving boundary value problems in partial differential equations. All parts of the book have been revised to improve the exposition, the analysis, and the applications, and to include new material to make the book more complete. New problems and examples are introduced.

CONTENTS—Partial Differential Equations in Physics. Superposition of Solutions. Orthogonal Sets of Functions. Fourier Series. Further Properties of Fourier Series. Fourier Integrals. Boundary Value Problems. Bessel Functions and Applications. Legendre Polynomials and Applications. Uniqueness of Solutions. Bibliography. Index.

CHURCHILL—Complex Variables and Applications

By RUEL V. CHURCHILL, University of Michigan. Second Edition.

297 *pp.*, 6 *x* 9, *illus.* (1960).....$7.50*c*

A top-ranking work with an impressive record of adoption, seeking to give a sound and straightforward presentation of theory through the differential and integral calculus of analytic functions, residues, and conformal transformations and the connections between analytic and harmonic functions. Another purpose is to give a full introduction to some of the important applications in applied mathematics, engineering, and physics, and to link these applications carefully to the theory.

CONTENTS—Complex Numbers. Analytic Functions. Mapping by Elementary Functions. Integrals. Power Series. Residues and Poles. Conformal Mapping. Applications of Conformal Mapping. The Schwarz-Christoffel Transformation. Integral Formulas of Poisson Type. Further Theory of Functions. APPENDIX. Bibliography. Tables of Transformations of Regions. INDEX.

CRAIG—Vector and Tensor Analysis

By HOMER V. CRAIG, University of Texas.

434 *pp.*, 6 *x* 9 (1943).....$7.95*c*

An introduction to vector analysis and tensor analysis, this text is especially adapted to those who do not have at their command a fingertip knowledge of modern advanced calculus. A book for those using vector and tensor analysis as a tool rather than for "pure" mathematicians. The author supplies the basis of a sound mathematical foundation at the beginning of the book.

CONTENTS—Part A. MATHEMATICAL BACKGROUND. Preliminary Remarks. Infinite Sequences and Functions. The Calculus of Functions of Two Variables. Parameterized Arcs and Allied Matters. Determinants, the e-Systems, and Certain Transformation Equations. Part B. ELEMENTARY VECTOR ANALYSIS. The Algebra of Vectors. A Simple N-Dimensional Space. The Differential Calculus of Vectors. Integral Transformations. The Tensor Concept. Extensors and the Differential Calculus of Tensors. Part D. APPLICATIONS. Classical Dynamics. Special Relativity. General Relativity.

CRANDALL—Engineering Analysis

A Survey of Numerical Procedures

By STEPHEN H. CRANDALL, Massachusetts Institute of Technology. *Engg. Soc. Monog.*

417 *pp.*, 6 *x* 9, 170 *illus.* (1956)....$10.50*r*

Concerned with the analysis of engineering problems of great complexity and the methods for organizing practical programs for their numerical solution, this book was written especially for engineers or engineering mathematicians. A special feature of this work is the arrangement of material according to a natural classification of the basic *types of problems* in engineering analysis. There are 432 exercises, most of which represent alternative developments, modifications, or extensions of the test. Some drill problems are included. Answers are given for most of the exercises.

CONTENTS—Preface. Introduction. Equilibrium Problems in Systems with a Finite Number of Degrees of Freedom. Eigenvalue Problems for Systems with a Finite Number of Degrees of Freedom. Propagation Problems in Systems with a Finite Number of Degrees of Freedom. Equilibrium Problems in Continuous Systems. Eigenvalue Problems in Continuous Systems. Propagation Problems in Continuous Systems. Bibliography. Index.

DETTMAN—Mathematical Methods in Physics and Engineering

By JOHN W. DETTMAN, Case Institute of Technology. *Int'l Series in Pure & App. Math.*

336 *pp.*, 6 *x* 9 (1962).....$9.75*c*

This senior level textbook covers the general area of boundary value and eigenvalue problems of mathematical physics. Answering the need for an intermediate book to bridge the gap between the traditional elementary engineering mathematics and the advanced monograph. It employs the methods of linear algebra and matrices, calculus of variations, separation of variables, Green's functions, integral equations, and integral transforms. In a highly unified treatment the interrelations between the various methods have been emphasized and the underlying themes delineated. Many examples are worked out in the text, with exercises at the end of each section to illustrate methods discussed or supplement the text by developing new ideas.

CONTENTS—ALGEBRAIC PRELIMINARIES. Linear Equations. Symmation Convention. Matrices. Determinants. Systems of Linear Algebraic Equations. Rank of a Matrix. Vector Spaces. Scalar Product. Orthonormal. Linear Transformations. Infinite-dimensional Vector Spaces. Function Space. Fourier Space. Fourier Series. Quadratic Forms. Hermitian Forms. System of Ordinary Differential Equations. Vibration Problems. CALCULUS OF VARIATIONS. Maxima and Minima of Functions. Lagrange Multipliers. Maxima and Minima of Functionals. Euler's Equations. Hamilton's Principle. Lagrange's Equations. Theory of Small Vibrations. The Vibrating String. Boundary Value Problems of Mathematical Physics. Eigenvalues and Eigenfunctions. Eigenfunction Expansions. Upper and Lower Bounds for Eigenvalues. BOUNDARY VALUE PROBLEMS. SEPARATION OF VARIABLES. Orthogonal Coordinate Systems. Separation of Variables. Sturm-Liouville Problems. Fourier Series. Series Solutions of Ordinary Differential Equations. Series Solutions of Boundary Value Problems. BOUNDARY VALUE PROBLEMS. GREEN'S FUNCTIONS. Nonhomogeneous Boundary Value Problems. One-dimensional Green's Functions. Green's Functions in Higher Dimensions. Problems in Unbounded Regions. A Problem in Diffraction Theory. INTEGRAL EQUATIONS. Integral Equations Formulation of Boundary Value Problems, Hilbert-Schmidt Theory. Fredholm Theory. Integral Equations of the First Kind. INTEGRAL TRANSFORM METHODS. Fourier Transforms. Applications of Fourier Transforms. Ordinary Differential Equations. Applications of Fourier Transforms. Integral Equations. Leplace Transforms. Applications. Other Transform Techniques. INDEX.

HALE—Oscillations in Nonlinear Systems

By DR. JACK K. HALE, Research Institute for Advanced Study, Baltimore. *Series in Adv. Math. with Appln.*

180 *pp.*, 6 *x* 9, *illus.* (1963).....$9.00*i*

This advanced treatment of differential equations for control systems is written with elec-

tronics engineers, control engineers, and systems designers in mind. It discusses the application of differential equations to a wide variety of control problems. Among the numerous points covered are: matrices, linear systems of differential equations, periodic solutions, characteristic exponents, solutions of non-autonomous systems and autonomous systems, equivalent linearization, and almost-periodic solutions and integral manifolds. This book is the first in a new mathematics series to be authored by RIAS staff members, and others. The series will include several subjects in the application of differential equations to control theory.

HAMMING—Numerical Methods for Scientists and Engineers

By RICHARD W. HAMMING, Bell Telephone Laboratories. *Int'l Series in Pure & App. Math.*

432 *pp.*, 6 *x* 9, 42 *illus.* (1962).....$11.00*c*

A junior-senior level textbook based on the experience derived from large-scale digital computers, and designed for scientists and engineers who expect to use such computers as tools for research and development. Unity, emphasis, and coherence characterize the author's treatment; the emphasis is on insight into the meaning of the computation rather than on machine efficiency. An outstanding feature is the use of a systematic approach to much of the material covered; e.g., the problem of finding formulas.

CONTENTS—THE DISCRETE FINITE DIFFERENCE CALCULUS. The Difference Calculus. Roundoff Noise. The Summation Calculus. Evaluation of Infinite Series. Finite Difference Equations. The Finite Fourier Series. POLYNOMIAL APPROXIMATION CLASSICAL NUMERICAL ANALYSIS. Introduction to Polynomial Approximations. Polynomial Interpolation—Arbitrarily Spaced Data. Polynomial Interpolation—Equally Spaced Data. A Uniform Method for Finding Formulas. On Finding the Error Term of a Formula. Formulas for Definite Integrals. Indefinite Integrals. Introduction to Differential Equations. A General Theory of Predictor-Corrector Methods. Special Methods of Integrating Ordinary Differential Equations. Least Squares: Theory. Least Squares: Practice. Chebyshev Polynomials. Rational Functions. NONPOLYNOMIAL APPROXIMATION. Periodic Functions—Fourier Approximation. The Convergence of Fourier Series. Nonperiodic Functions—The Fourier Integral. Linear Filters—Smoothing and Differentiating. Integrals and Differential Equations. Exponential Approximation. Singularities. ALGORITHMS AND HEURISTICS. On Finding Zeros. Simultaneous Linear Algebraic Equations. Inversion of Matrices and Eigenvalues. Some Examples of the Simulation of Situations and Processes. Random Numbers and Monte Carlo Methods. The Art of Computing for Scientists and Engineers. REFERENCES. INDEX.

HILDEBRAND—Introduction to Numerical Analysis

By F. B. HILDEBRAND, Massachusetts Institute of Technology. *Int'l Series in Pure & App. Math.*

511 *pp.*, 6 *x* 9, *illus.* (1956).....$9.95*c*

Provides an introductory treatment of the fundamental processes of Numerical Analysis. These processes are the foundation of existent techniques associated with the effective use of modern high-speed calculating devices. Thus, the text provides a substantial treatment of the basic operations of computation, approximation, interpolation, numerical differentiation and integration, and the numerical solution of equations. It also considers applications to such processes as the smoothing of data, the numerical summation of series, and the numerical solution of ordinary differential equations.

CONTENTS—Introduction. Interpolation with Divided Differences. Lagrangian Methods. Finite-difference Interpolation. Operations with Finite Differences. Numerical Solution of Differential Equations. Least-squares Polynomial Approximation. Gaussian Quadrature and Related Topics. Approximations of Various Types. Numerical Solution of Equations. Appendix A: Justification of the Crout Reduction. Appendix B: Bibliography. Appendix C: Directory of Methods. Index.

HOUSEHOLDER—Principles of Numerical Analysis

By ALSTON S. HOUSEHOLDER, Oak Ridge National Laboratory. *Int'l Series in Pure & App. Math.*

274 *pp.*, 6 *x* 9, *illus.* (1953).....$7.75*c*

Develops the mathematical principles upon which many computing methods are based. It is designed for senior-graduate courses and for use by those mathematicians who wish to invent, improve, or evaluate computing techniques. The material is directed toward digital computation, and techniques for making estimates of errors are indicated wherever possible. Functional equations as such are not discussed, but emphasis is placed upon the methods of solving the finite systems and performing the interpolations which are required in the digital solution of functional equations.

CONTENTS—The Art of Computation. Matrices and Linear Equations. Nonlinear Equations and Systems. The Proper Values and Vectors of a Matrix. Interpolation. More General Methods of Approximation. Numerical Integration and Differentiation. The Monte Carlo Method. Bibliography. Problems. Index.

JOHNSON—Mathematical and Physical Principles of Engineering Analysis

By WALTER C. JOHNSON, Princeton University.

346 *pp.*, 5¼ *x* 8¼, 116 *illus.* (1944).$7.50*c*

Presents the essential physical and mathematical principles and methods of attack which underlie the analysis of many practical engineering problems. Practical examples and problems are taken from the various fields of engineering. There is particular emphasis on physical concepts, the use of assumptions, procedures in setting up equations, the use of mathematics as a tool in accurate and quantitative reasoning, and the physical interpretation of mathematical results.

CONTENTS—The Analysis of Engineering Problems. Some Basic Physical Principles. Transient and Steady-state Conditions. Setting Up Equations. Graphical and Numerical Solution of Differential Equations. Ordinary Differential Equations. Vector Representation of Sinusoids. The Checking of Equations. Dimensional Analysis. Fourier Series. Systems with Distributed Constants.

KÁRMÁN AND BIOT—Mathematical Methods in Engineering

An Introduction to the Mathematical Treatment of Engineering Problems

By THEODORE V. KÁRMÁN, California Institute of Technology, and MAURICE A. BIOT, Brown University.

489 *pp.*, 6 *x* 9 (1940).....$9.50*c*

Seeks to acquaint the student with the art of setting up equations for a definite problem, carrying out solutions numerically and graphically, and discussing the physical and engineering significance of the results. The book draws its subjects from the fields of civil, mechanical, aeronautical, and electrical engineering and demonstrates to the student the practical application of tools offered by mathematical analysis. The mathematical prerequisites are ordinary calculus, elements of analytical geometry and elements of algebra.

CONTENTS—Introduction to Ordinary Differential Equations. Some Information on Bessel Functions. Fundamental Concepts of Dynamics. Elementary Problems in Dynamics. Small Oscillations of Conservative Sys-

tems. Small Oscillations of Nonconservative Systems. The Differential Equations of the Theory of Structures. Fourier Series Applied to Structural Problems. Complex Representation of Periodic Phenomena. Transient Phenomena. Operational Calculus Equations with Finite Differences Applied to Engineering.

KORN AND KORN—Mathematical Handbook for Scientists and Engineers

By GRANINO A. KORN, University of Arizona, and THERESA M. KORN.

944 *pp.*, 6 *x* 9, 59 *illus.* (1961)....$21.50*hb*

Gives you quick access to accurate mathematical facts and data essential in engineering and scientific applications. Provides helpful definitions, theorems, and formulas and conveniently outlines mathematical methods. By means of introductions, notes, and cross-references, the interrelations of the various topics and their importance in science and engineering work are shown. Among the many subjects covered are algebra, analytic geometry, calculus, vector analysis, integrals, Fourier analysis, Laplace transforms, differential equations, Boolean algebra, tensor analysis, probability theory, random processes, correlation functions, numerical computation, and finite-difference methods.

CONTENTS—Real and Complex Numbers. Elementary Algebra. Plane Analytic Geometry. Solid Analytic Geometry. Functions and Limits. Differential and Integral Calculus. Vector Analysis. Curvilinear Coordinate Systems. Functions of a Complex Variable. The Laplace Transformation and Other Integral Transformations. Ordinary Differential Equations. Partial Differential Equations. Maxima and Minima. Definition of Mathematical Models: Modern (Abstract) Algebra and Abstract Spaces. Matrices. Quadratic and Hermitian Forms. Linear Vector Spaces and Linear Transformations (Linear Operators). Representation of Mathematical Models in Terms of Matrices. Linear Integral Equations, Boundary-value Problems, and Eigenvalue Problems. Representation of Mathematical Models: Tensor Algebra and Analysis. Differential Geometry. Probability: Theory and Random Processes. Mathematical Statistics. Numerical Calculations and Finite Differences. Special Functions.

KUNZ—Numerical Analysis

By KAISER S. KUNZ, Schlumberger Well Surveying Corp.

575 *est. pp.*, 6 *x* 9, 37 *illus.* (1957)..$8.95*c*

The purpose of this book is to develop a fundamental understanding of the use of finite difference methods in obtaining numerical solutions to problems in applied mathematics. Starting with a study of numerical solutions of algebraic equations, methods of interpolation, and numerical integration; it carries through to an application of the finite difference techniques to ordinary and partial differential equations, and the numerical solution of integral equations. In preparation for the study of partial differential equations, the book treats rather thoroughly the solution of simultaneous linear equations and multivariate interpolation.

CONTENTS—Preface. The Real Roots of an Equation. Roots of Polynomial Equations. Finite-Difference Tables and the Theory of Interpolation. Central-Difference Interpolation Formulas. LaGrange's Interpolation Formula and Inverse Interpolation. Summation of Series. Numerical Differentiation and Numerical Integration. Numerical Solution of Ordinary Differential Equations: Methods of Starting the Solution. Solution of Ordinary Differential Equations: Methods for Continuing the Solution. Simultaneous Equations and Determinants. Interpolation in Tables of Two or More Variables. Expression of a Partial Differential Equation as a Partial Difference Equation. Solution of Partial Differential Equations of the Elliptic Type. Solution of Partial Differential Equations of the Parabolic and Hyperbolic Types. Integral Equations. Appendix A. Estimation of Error in Numerical Computation. Appendix B. References. Index.

LePAGE—Complex Variables and the LaPlace Transform for Engineers

By WILBUR R. LEPAGE, Syracuse University. *Int'l Series in Pure & App. Math.*

475 *pp.*, 6 *x* 9, 175 *illus.* (1961)....$12.50*c*

Written to give the graduate-level student a better understanding of Fourier and Laplace transforms, including the basic theory of functions of a complex variable. The text occupies a position between the usual engineering treatments and the abstract treatments of the mathematicians. It places heavy emphasis on interpretation and prepares the student for creative work—not merely to solve stereotyped problems. This approach is intended for workers in an age of mature technology, in which the scientific method occupies a position of dominance.

CONTENTS—Preface. Conceptual Structure of System Analysis. Introduction to Function Theory. Conformal Mapping. Integration. Infinite Series. Multivalued Functions. Some Useful Theorems. Theorems on Real Integrals. The Fourier Integral. The LaPlace Transform. Convolution Theorems. Further Properties of the LaPlace Transform. Solution of Ordinary Linear Equations with Constant Coefficients. Impulse Functions. Periodic Functions. The Z Transform. Appendix A. Appendix B. Bibliography. Index.

LASS—Elements of Pure and Applied Mathematics

By HARRY LASS, University of Southern California. *Int'l Series in Pure & App. Math.*

491 *pp.*, 6 *x* 9 (1957).....$9.50*c*

Containing a more thorough treatment of individual topics than is found in the majority of applied mathematics texts, this work is a valuable reference book for all readers and an excellent text for upper-division undergraduate courses for physical science, engineering, and math majors. The text provides a thorough treatment of the various subjects in classical mathematics which are most useful to the engineer and physicist. It covers and illuminates most of the subjects that an undergraduate math major will encounter in his course work, and gives him exceptionally good preparation as regards the use of applied mathematics.

CONTENTS—Preface. Linear Equations, Determinants, and Matrices. Vector Analysis. Tensor Analysis. Complex-variable Theory. Differential Equations. Orthogonal Polynomials. Fourier Series, and Fourier Integrals. The Stieltjes Integral, Laplace Transform, and Calculus of Variations. Group Theory and Algebraic Equations. Probability Theory and Statistics. Real-variable Theory. Index.

LASS—Vector and Tensor Analysis

By HARRY LASS, University of Southern California. *Int'l Series in Pure & App. Math.*

347 *pp.*, 6 *x* 9, 101 *illus.* (1950).....$7.50*c*

This book acquaints you with the methods and tools of vector and tensor analysis as applied to geometry, mechanics, electricity, hydrodynamics, and the theory of relativity. It includes a simple and comprehensive outline of real variable theory, especially in its application to the Riemann integral. The material on the application of vector and tensor analysis is unusually full, as is the treatment of tensors.

CONTENTS—Preface. The Algebra of Vectors. Differential Geometry. Integration. Static and Dynamic Electricity. Mechanics. Hydrodynamics and Elasticity. Tensor Analysis and Riemannian Geometry. Further Applications of Tensor Analysis. References. Index.

LUKE—Integrals of Bessel Functions

By YUDELL LUKE, Midwest Research Institute, Kansas City, Missouri.

424 *pp.*, 6 *x* 9 (1962).....$12.50*i*

A compendium of formulas, dealing with the many indefinite and definite integrals of Bessel functions. Places special emphasis on indefinite integrals. Topics covered include basic formulas, power series expansions, representations of integrals in terms of Lommel functions, reduc-

tion of certain integrals, Airy functions, and incomplete Gamma functions. Also gives detailed coverage of repeated integrals of Bessel functions, integrals involving Struve functions, Schwarz functions and generalizations, products of Bessel and Struve functions, and miscellaneous indefinite integrals involving Bessel functions.

MERRITT—Mathematics Manual

Methods and Principles of the Various Branches of Mathematics for Reference, Problem Solving, and Review

By FREDERICK S. MERRITT, Senior Editor, *Engineering News-Record.*

320 *pp.*, 6 *x* 9, *illus.* (1962).....$10.00*i*

Fully explains every major phase of modern mathematics applicable to problems in business, engineering and science. Contains essential definitions, principles, theorems, corollaries, relationships, and most commonly used mathematical methods—with worked-out examples to demonstrate every step. The book gives special attention to material useful in applications of high-speed electronic computers, and devotes as much attention to arithmetic, algebra, geometry, and trigonometry as to tensor calculus, probabilities, statistics, and other aspects of higher mathematics.

CONTENTS—Basic Data. Arithmetic. Algebra. Plane and Solid Geometry. Plane and Spherical Trigonometry. Analytical Geometry. Differential Calculus. Integral Calculus. Differential Equations. Non-elementary Solutions of Differential Equations. Numerical Integration of Differential Equations. Series. Matrices and Determinants. Vectors and Tensors. Complex Variables and Conformal Mapping. Permutations, Combinations, Probabilities. Statistics.

NEWELL—Vector Analysis

By HOMER E. NEWELL, JR., National Aeronautics and Space Administration. *Int'l Series in Pure & App. Math.*

216 *pp.*, 6 *x* 9, *illus.* (1955).....$6.95*c*

Designed to develop the algebra and calculus of vectors in the way in which the physicist and engineer will want to use them, this book encourages the reader to think of vectors as physical or geometric quantities. Part I, the basic portion of the text, is devoted to a thorough treatment of vector algebra and the vector calculus. Part II provides the illustrative matter, presenting applications to kinematics, mechanics, and electromagnetic theory.

CONTENTS—Preface. THEORY. Scalars and Vectors. A Review of Some Mathematical Concepts. Differentiation of Vectors. Divergence and Curl. The Operator Δ Relationships Involving ∇ Curvilinear Coordinates. General Theorems and Potential Theory. APPLICATIONS. Miscellaneous Applications. Motions in Space. A Sketch of Electromagnetic Theory. Answers to Exercises in Part I. Index.

NODELMAN AND SMITH—Mathematics for Electronics with Applications

By HENRY M. NODELMAN, RCA Institutes and Polytechnic Institute of Brooklyn, and FREDERICK W. SMITH, JR., National Broadcasting Co.

391 *pp.*, 6 *x* 9, *illus.* (1956).....$7.00*c*

A unique book for the electronic and television engineering student and the practicing engineer. This text is designed to correlate engineering practice with mathematical topics. The particular mathematical topics presented in this text are thoroughly integrated with electronic engineering problems taken directly from the technical literature.

CONTENTS—Part 1—The Uses of Mathematics in Electronics: Case Histories of Practical Applications. Electronic Applications of Calculus. Part 2—Equations Testing Prior to Mathematical Operations: Dimensional Formulas and Systems. Checking Equations and Predicting Solutions. Part 3—The Algebra of Circuit Analysis: Theory of Determinants. Network Solutions by Determinants. Matrix Algebra. Network Solutions by Matrices. Part 4—Theory and Application of Series: Basic Properties and Applications. Nonlinear Electronic Devices. Part 5—Differential Equations: Theory and Applications: Classical Solutions and Non-network Applications. Transient Solutions and Elementary Laplace Transforms. Part 6—The Direction of Mathematics in Electronics: Elements of Boolean Algebra. A Study Plan for Specialists in Electronics.

PIPES—Applied Mathematics for Engineers and Physicists

By LOUIS A. PIPES, University of California, Los Angeles. Second Edition.

723 *pp.*, 6 *x* 9, 232 *illus.* (1958).....$9.95*c*

A text for the general advanced mathematics course for applied scientists, covering a wide range of topics in the advanced calculus fields. It provides the engineer and applied physicist with the principal mathematical techniques necessary for the analysis of the usual mathematical problems that arise in practice and for the comprehension of important current technical papers. This revised edition has been reviewed with extraordinary care by a number of expert critics and contains many new topics.

CONTENTS—Preface. Infinite Series. Complex Numbers. Mathematical Representation of Periodic Phenomena. Fourier Series and the Fourier Integral. Linear Algebraic Equations, Determinants and Matrices. The Solution of Transcendental and Polynomial Equations. Linear Differential Equations with Constant Coefficients. Laplace Transforms of Use in the Solution of Differential Equations. Oscillations of Linear, Lumped Electrical Circuits. Elastic Vibrations of Systems with a Finite Number of Degrees of Freedom. The Differential Equations of the Theory of Structures. The Calculus of Finite Differences and Linear Difference Equations with Constant Coefficients. Partial Differentiation. The Gamma, Beta, and Error Functions. Bessel Functions. Legendre's Differential Equation and Legendre Polynomials. Vector Analysis. The Wave Equation. Simple Solutions of Laplace's Differential Equation. The Equation of Heat Conduction or Diffusion. The Elements of the Theory of the Complex Variable. The Solution of Two-Dimensional Potential Problems by the Method of Conjugate Functions. The Operational Calculus. The Analysis of Nonlinear Oscillatory Systems. Index.

PIPES—Matemáticas para Ingenieras y Físicos, Second Edition

723 *pp.*, 6 *x* 9 (1963).....$7.75*r*

RICE AND KNIGHT—Technical Calculus and Analysis

By HAROLD S. RICE, Wentworth Institute, Boston, Massachusetts; and RAYMOND M. KNIGHT, Hudson Valley Technical Institute, Troy, New York.

450 *pp.*, 6 *x* 9 (1959).....$6.75*c*

A practical, applied mathematics text on analytical geometry and calculus for the technical institute-junior college level. Emphasis is on elementary calculus as a mathematical tool for those who plan to enter the production and construction areas of engineering technologies. The power and limitations of the techniques of elementary calculus are illustrated by specific industrial applications. Text includes all functions usually considered in the study of elementary integration and differentiation.

CONTENTS—Graphical Methods. Empirical Equations. Differentiation. Integration. Centroids and Moments. Introduction to Differential Equations. Probability and Statistics. Appendix: Functions. Continuity. Successive Differentiation. Limits. Differentials. Integration of Multivalued Functions. Partial Derivatives (and Differentials). Partial Differentiation. Derivation of the Least-mean-square Equations.

RICE AND KNIGHT—Technical Mathematics

By HAROLD S. RICE, Wentworth Institute, Boston; and RAYMOND M. KNIGHT, Hudson Valley Technical Institute, Troy. Second Edition.

640 *pp.*, 6⅜ *x* 9¼, 529 *illus.* (1963). $7.95*c*
The second edition of this popular introductory mathematics text has been revised and expanded. Examples and problems have been modernized: some space technology problems have been included; other problems have been updated and rearranged in order of difficulty. The nearly 5,000 problems are mathematically characteristic of many fields of engineering. The scope of the book is designed to prepare students in technical institutes and junior and community colleges for employment as engineering technicians, equipped with the ability to apply fundamental mathematical techniques to the problems of industry.
CONTENTS—Preface. UNIT ONE. SLIDE RULE AND REVIEW OF ARITHMETIC AND GEOMETRY. 1. Treatment of Measured Data. 2. The Slide Rule. 3. Tables and Interpolation. 4. Applications in Geometry. UNIT TWO. BASIC ALGEBRA. 5. Introduction to Algebra. 6. Linear Equations in One Unknown. UNIT THREE. ADVANCED ALGEBRA AND LOGARITHMS. 7. Functions and Graphs. 8. Systems of Linear Equations. 9. Exponents and Radicals. 10. Quadratic Equations in One Unknown. 11. Simultaneous Quadratic Equations. 12. Ratio, Proportions, Variation. 13. The Binomial Theorem—Progressions. 14. Logarithms. 15. Exponential Functions—Rate of Growth. UNIT FOUR. NUMERICAL TRIGONOMETRY OF THE RIGHT TRIANGLE. 16. The Right Triangle. UNIT FIVE. INTRODUCTION TO ANALYTICAL TRIGONOMETRY. 17. Vectors and Trigonometry. UNIT SIX. OBLIQUE TRIANGLES AND APPLICATIONS OF NUMERICAL TRIGONOMETRY. 18. Oblique Triangles. 19. Trigonometric Applications and Review. UNIT SEVEN. ANALYTICAL TRIGONOMETRY. 20. Vectors. 21. Trigonometric Formulas, Identities and Equations. 22. Graphs of the Trigonometric Functions. 23. Complex Numbers and Position Vectors. APPENDIXES. A. Computation Aids and Approximations. B. Limitations on Interpolation. C. Solution of Higher Degree Equations. Bibliography.

RICE AND KNIGHT—Technical Mathematics with Calculus
By HAROLD S. RICE, Wentworth Institute, and RAYMOND M. KNIGHT, Hudson Valley Technical Institute.
783 *pp.*, 6 *x* 9, 60 *illus.* (1957).....$7.50*c*
An introductory mathematics text for post-secondary students who intend to enter some field of technology. The text material is identical with the authors' *Technical Mathematics*, except that three chapters on calculus have been added. In the calculus section considerable space is devoted to graphical differentiation and integration.
CONTENTS—Unit I—Slide Rule and Review of Arithmetic and Geometry. Unit II—Basic Algebra. Unit III—Advanced Algebra and Logarithms. Unit IV—Introduction to Analytical Trigonometry. Unit V—Numerical Trigonometry of the Right Triangle. Unit VI—Oblique Triangles and Applications of Numerical Trigonometry. Unit VII—Analytical Trigonometry. Unit VIII—Introduction to Calculus.

RICHMOND—Calculus for Electronics
By A. E. RICHMOND, Tektronix, Inc.
407 *pp.*, 6 *x* 9, 150 *illus.* (1958).....$8.25*t*†
A text of mathematical applications which presents simultaneously the processes of calculus and many of the fundamentals of electricity and electronics. This combination of mathematical results with their practical applications will give the student a firm grasp of the basic science of his applied field, and motivate him to go on to more advanced work. The text has been specifically planned to follow Cooke's *Mathematics for Electricians and Radiomen*, and to precede Nodelman and Smith's *Mathematics for Electronics with Applications*.
CONTENTS—Preface. FUNDAMENTAL CONCEPTS. Introduction. Functions. Average Rates. Limits. BASIC OPERATIONS. Derivatives. Differentials. Higher Derivatives. Maxima and Minima. Integrals. Definite Integrals. ADDITIONAL FUNCTIONS. Trigonometric Functions. Logarithmic and Exponential Functions. Hyperbolic Functions. FURTHER OPERATIONS. Partial Derivatives. Integration Techniques. Double Integrals. INFINITE SERIES. MacLaurin's Series. Taylor's Series. Fourier's Series. DIFFERENTIAL EQUATIONS. Introduction to Differential Equations. TABLES. Trigonometric Identities. Common Logarithms. Natural Logarithms. Exponentials. Hyperbolic Functions. Relations Involving Hyperbolic Functions. Hyperbolic Functions of Complex Quantities. Brief Table of Integrals. Certain Electrical Formulas. Derivatives. Integrals—Type Forms. INDEX. Answers to Odd-numbered Problems.

SAATY AND BRAM—Nonlinear Mathematics
By THOMAS L. SAATY, Science and Technology Bureau; and JOSEPH BRAM, Center for Naval Analysis (O.E.G.). *Int'l Series in Pure & App. Math.*
In Press
This book offers access to a large number of related topics in the nonlinear mathematics field, and includes selected references to readily available modern literature on the subject. The intent of the exercises is two-fold: in some cases to train the student in the mechanics of a method, in others to guide him through the proof of a theorem. The book seeks to discover for the reader some essential qualities of mathematical systems and models unrestricted by linearity assumptions, and to present to him, in each case, a variety of characterization and construction theories.

SILVERMAN—Academician V. I. Smirnov's Linear Algebra and Group Theory
Revised, Adapted, and Edited by RICHARD A. SILVERMAN.
480 *pp.*, 6 *x* 9, *illus.* (1961).....$12.50*c*
An English-language version of a Russian masterpiece, offering several unusual features. Unlike many algebra texts, this unique work does not pursue mathematical byways remote from the applications; instead, the approach adopted is constantly "concrete." In addition to a detailed treatment of linear algebra, the book gives an excellent introduction to group theory and an extensive discussion of group representation, a topic usually found only in the specialized treatise. About 400 pertinent problems have been included.
CONTENTS—DETERMINANTS AND SYSTEMS OF EQUATIONS. Determinants and Their Properties. Solution of Systems of Linear Equations. MATRIX THEORY. Linear Transformations. Quadratic Forms. Infinite-Dimensional Spaces. Reduction of Matrices to Canonical Form. GROUP THEORY. Elements of the General Theory of Groups. Representations of Groups. Continuous Groups. APPENDIX. Systems of First Order Differential Equations. BIBLIOGRAPHY. ANSWERS TO PROBLEMS. INDEX.

SPARKS—A Survey of Basic Mathematics
A Text and Workbook for College Students
By FRED W. SPARKS, formerly Texas Technological College.
257 *pp.*, 8¼ *x* 10⅞, 71 *illus.* (1960). $4.25*c*
This is more of a teaching text than is the ordinary text-workbook. The author offers a complete discussion—clear, concise, and logical—of all principles involved, including motivational material and some historical background. The book is designed for students whose knowledge of arithmetic techniques, basic algebra, and trigonometry may be weak—and who need plenty of drill work. To this end it furnishes a review for students entering mathematical fields; provides material necessary for the pursuit of nonmathematical courses; and provides material necessary to deal with problems of daily living.
CONTENTS—Review of Arithmetic. Introduction to Algebra. Mental Multiplication. Factoring. Fractions. Linear and Fractional Equations. Simultaneous Linear

† *Textbook edition available at educational list price.*

Equations. Exponents and Radicals. Quadratic Equations. Ratio. Logarithms. Graphical Methods. Numerical Trigonometry.

SNEDDON—Fourier Transforms
Their Uses in Physics and Engineering
By IAN N. SNEDDON, University of Glasgow. *Int'l Series in Pure & App. Math.*
531 *pp.*, 6 x 9, 108 *illus.* (1951)....$11.75*c*
Students and research workers interested in the boundary value problems of physics and engineering will welcome this book presenting the theory of Fourier transforms and related topics such as Laplace, Mellin, and Hankel transforms, finite transforms, dual integral equations and the Wiener-Hopf procedure. The simple approach is from the point of view of primary interest in the applications of the theory, rather than in the theory itself.
CONTENTS—Fourier Transforms. Hankel Transforms. Finite Transforms. Theory of Vibrations. Conduction of Heat in Solids. Slowing Down of Neutrons in Matter. Hydrodynamic Problems. Applications to Atomic and Nuclear Physics. Two-dimensional Stress Systems. Axially Symmetrical Stress Distributions. Some Properties of Bessel Functions. Approximate Methods of Calculating Integral Transforms. Tables of Integral Transforms.

SOKOLNIKOFF—Mathematical Theory of Elasticity
By IVAN S. SOKOLNIKOFF, University of California, Los Angeles. Second Edition.
476 *pp.*, 6 x 9, *illus.* (1956).....$11.00*c*
A unified treatment of seemingly unrelated topics of great value to engineers and mathematicians concerned with engineering problems of deformable bodies. Includes a chapter on analytical and numerical methods of approximate solution of problems in elasticity by variational and related techniques.
CONTENTS—Analysis of Strain. Analysis of Stress. Stress-Strain Relations. Extension, Torsion, and Flexure of Homogeneous Beams. Variational Methods.

SOKOLNIKOFF AND REDHEFFER—Mathematics of Physics and Modern Engineering
By I. S. SOKOLNIKOFF and R. M. REDHEFFER, University of California, Los Angeles.
796 *pp.*, 6 x 9, 229 *illus.* (1958).....$9.95*c*
The primary aim of this successor to the author's pioneering *Higher Mathematics for Engineers and Physicists* is to provide a sound and inspiring introduction to applied mathematics. It strikes a balance between the presentation which puts applications above the medium which makes applications possible, and preoccupation with the logic of mathematics for the sake of logic alone. The approach fosters a critical attitude toward analytic processes and stresses those aspects which make mathematics a living discipline in creative scientific developments.
CONTENTS—Preface. To the Instructor. Ordinary Differential Equations. Infinite Series. Functions of Several Variables. Algebra and Geometry of Vectors. Matrices. Vector Field Theory. Partial Differential Equations. Complex Variable. Probability. Numerical Analysis. APPENDIX. A. Determinants. B. The Laplace Transform. C. Comparison of the Riemann and Lebesgue Integrals. D. Table of $\Phi(x) = \frac{1}{\sqrt{2\pi}}\int_0^x e^{-t^2/2}dt$ Answers. Index.

SOKOLNIKOFF AND SOKOLNIKOFF—Higher Mathematics for Engineers and Physicists
By IVAN S. SOKOLNIKOFF, University of California, Los Angeles, and ELIZABETH S. SOKOLNIKOFF, formerly University of Wisconsin. Second Edition.
587 *pp.*, 6 x 9, *illus.* (1941).....$9.50*c*
An accurate introduction to those branches of mathematics most frequently encountered by the engineer in his practice and by research specialists in the applied sciences. A considerable portion of the material has been rearranged and supplemented by further illustrative examples, proofs, and problems. The number of problems has been more than doubled in the present edition of this widely used text.
CONTENTS—Infinite Series. Fourier Series. Solution of Equations. Partial Differentiation. Multiple Integrals. Line Integral. Ordinary Differential Equations. Partial Differential Equations. Vector Analysis. Complex Variable. Probability. Empirical Formulas and Curve Fitting.

TODD—Survey of Numerical Analysis
Edited by JOHN TODD, California Institute of Technology.
608 *pp.*, 6 x 9, 11 *illus.* (1962).....$12.50*c*
Fourteen widely known authorities in their fields deal with various aspects of numerical analysis, both classical and modern, together with certain areas of mathematics and statistics which support it and which are not adequately covered in current literature. The authors have had wide academic, governmental and industrial experience both in Europe and in the United States.
CONTENTS—Motivation for Working in Numerical Analysis, by John Todd; Classical Numerical Analysis, by John Todd; Constructive Theory of Functions, by John Todd; Automatic Computers by Morris Newman, National Bureau of Standards, and John Todd; Use and Limitations of Computers, by Harvey Cohn, University of Arizona; Matrix Computations, by Morris Newman; Numerical Methods for Finding Solutions of Nonlinear Equations, by Urs Hochstrasser, Embassy of Switzerland; Eigenvalues of Finite Matrices, by Olga Taussky, California Institute of Technology and Marvin Marcus, University of British Columbia; Numerical Methods in Ordinary Differential Equations, by Henry A. Antosiewicz, University of Southern California and Walter Gautschi, Oak Ridge National Laboratory; Orthonormalization Codes in Numerical Analysis, by Philip J. Davis, National Bureau of Standards; The Numerical Solution of Elliptic and Parabolic Partial Differential Equations, by David M. Young, Jr., University of Texas; Numerical Methods for Integral Equations, by Hans F. Bückner, University of Wisconsin; Errors of Numerical Approximation for Analytic Functions, by Philip J. Davis, National Bureau of Standards; Numerical Analysis and Functional Analysis, by Henry A. Antosiewicz and Werner C. Rheinboldt, Syracuse University; Discrete Problems, by Marshall Hall, Jr., California Institute of Technology; Number Theory, by Harvey Cohn and Olga Taussky; Linear Estimation and Related Topics, by Marvin Zelen, University of Wisconsin.

WEINSTOCK—Calculus of Variations
With Applications to Physics and Engineering
By ROBERT WEINSTOCK, Oberlin College.
326 *pp.*, 6 x 9, *illus.* (1952).....$7.95*c*
Illustrates the application of the Calculus of Variations in several fields outside the realm of pure mathematics. In addition to a brief treatment of the classical elementary problems, the book contains sections involving the role of the Calculus of Variations in particle dynamics, geometrical optics, quantum mechanics, elasticity, electrostatics, and in the eigenvalue-eigenfunction problems associated with the vibrating string and the vibrating membrane.
CONTENTS—Preface. Introduction. Background Preliminaries. Introductory Problems. Isoperimetric Problems. Geometrical Optics: Fermat's Principle. Dynamics of Particles. Two Independent Variables: The Vibrating String. The Sturm-Liouville Eigenvalue-Eigenfunction Problem. Several Independent Variables: The Vibrating Membrane. Theory of Elasticity. Quantum Mechanics. Electrostatics. Bibliography.

WYLIE—Advanced Engineering Mathematics

By C. R. WYLIE, JR., University of Utah. Second Edition.

658 *pp.*, 6 *x* 9, *illus.* (1960).....$9.95*c*

Regarded by teachers everywhere as a model of clarity, coherence, and accuracy, this fine text has been completely rewritten, strengthened, and with a wealth of valuable new material. The objective remains the same: to provide an introduction to those branches of advanced mathematics currently important to engineers and physicists. Every effort has been made to keep the presentation detailed and clear, while at the same time maintaining acceptable standards of precision and accuracy. The new edition contains many new illustrative examples and exercises. There are 850 exercises of varying degrees of difficulty.

CONTENTS—Determinants and Matrices. Ordinary Differential Equations of the First Order. Linear Differential Equations with Constant Coefficients. Simultaneous Linear Differential Equations. Finite Differences. Mechanical and Electrical Circuits. Fourier Series. The Laplace Transformation. Partial Differential Equations. Bessel Functions and Legendre Polynomials. Vector Analysis. Analytic Functions of a Complex Variable. Infinite Series in the Complex Plane. The Theory of Residue. Conformal Mapping. APPENDIX. INDEX.

Theory of Games

McKINSEY—Introduction to the Theory of Games

By J. C. C. MCKINSEY, Stanford University. *A Rand Corporation Research Study.*

371 *pp.*, 6 *x* 9 (1952).....$12.00*i*

This is one of the first books to treat the mathematical theory of games of strategy. As distinguished from games of chance, games of strategy involve conflict among individuals or groups capable of rational activity. Instead of probability, this new domain of mathematics faces the more complex problem of intelligence and behavior. The mathematical apparatus developed by the author will find application not only in parlor games (chess, bridge, poker, for example), but also in economics, statistics, and the theory of military strategy. Requires no mathematics beyond calculus and classical algebra.

CONTENTS—Rectangular Games. The Fundamental Theorem for Rectangular Games. The Solutions of a Rectangular Game. A Method of Approximating the Value of a Game. Games in Extensive Form. Games in Extensive Form—General Theory. Games with Infinitely Many Stratagems. Distribution Functions. Stieltjes Integrals. The Fundamental Theorem for Continuous Games. Separable Games. Games with Convex Payoff Functions. Applications to Statistical Inference. Linear Programming. Zero-Sum *n*-Person Games. Games without Zero-Sum Restriction: The von Neumann-Morgenstern Theory. Some Open Problems.

WILLIAMS—The Compleat Strategyst

A Primer on the Theory of Games of Strategy

By JOHN D. WILLIAMS, Rand Corporation. *A Rand Corporation Research Study.*

234 *pp.*, 6 *x* 9, 310 *illus.* (1954).....$5.95*t*

An elementary explanation of the theory of games and how it may be applied to problems involving conflict situations that resemble games. In a light, humorous, and easily readable style, the author introduces the theory, without using anything higher than secondary school arithmetic, and shows by worked-out examples how it may be applied to situations ranging from checker and card games to business problems and military strategy.

Mathematical Programming

GRAVES AND WOLFE—Recent Advances in Mathematical Programming

Edited by ROBERT L. GRAVES, The Univ. of Chicago; and PHILIP WOLFE, The RAND Corporation.

350 *pp.*, 6 *x* 9, *illus.* (1963).....$1.95*t*

A collection of papers presented at the Symposium for Mathematical Programming held at The University of Chicago during the summer of 1962.

CONTENTS—Combinatorial Theory Underlying Linear Programs. A Mutual Primal-dual Simplex Method. On Cone Functions. The Maximum Transform. Representations for the Generalized Inverse of Matrices Partitioned as A = [U,V]. On Unimodular Sets of Vectors. Dual Programs. Symmetric Dual Quadratic Programs. Orthogonality, Duality, and Quadratic-type Problems in Mathematical Programming. Methods of Nonlinear Programming. On the Gradient Projection Methods of R. Frisch and J. B. Rosen. The Simplex Method for Local Separable Programming. Minimization of Indefinite Quadratic Functions with Linear Constraints. Linear Programming under Uncertainty. A Simplicial Algorithm for Convex Programming. Characterizations by Chance-constrained Programming. Programming with Standard Errors in the Constraint and the Objective. Inequalities for Stochastic Nonlinear Programming Problems. Compact Basis Triangularization for the Simplex Method. Simplex Method Using Pseudo-basic Variables for Structured Linear Programming Problems. Dual and Parametric Methods in Decomposition. Convex Partition Programming. Experiments in Linear Programming. Parametric Linear Programming. Computational Efficiency in Product Form Linear Programming Codes. Some New Algorithms for Linear Programming. A Formula for Ranging the Cost of Living. A Stochastic Model for Programming the Supply of a Strategic Material. Mathematical Programming Applied to Short-term Scheduling of Interconnected Hydrothermal Electric Power Systems. An Application of Linear Programming to the Fairing of Ships' Lines. The Simulation of Multicomponent Distillation. Optimal Capacity Scheduling. The Personnel Assignment Problem. An Algorithm for Integer Solutions to Linear Programs. Integer Quadratic Programming. On Diagonalization Methods in Integer Programming. An Accelerated Euclidean Algorithm for Integer Linear Programming. Flows in Networks. Multicommodity Network Flows. Transportation Problems with Distributed Loads. Least Cost Estimating and Scheduling with Limited Resources. Mathematical Programming Solution of Traveling Salesman Example. Network Algorithms for Combinatorial and Discrete Variable Optimization Problems.

Operations Research and Linear Programming

DORFMAN, SAMUELSON, AND SOLOW—Linear Programming and Economic Analysis

By ROBERT DORFMAN, Harvard University, PAUL A. SAMUELSON, Massachusetts Institute of Technology, and ROBERT M. SOLOW, Center for Advanced Study in Behavioral Sciences. *A Rand Corporation Research Study.*

525 *pp.*, 6 *x* 9, 83 *illus.* (1958).....$11.00*i*

Shows the relationship of linear programming to standard economic analysis. Stresses the economic aspects of the problem, paying attention to practical problems of computation and giving concrete applications. Treatment includes linear programming as applied to problems of a firm, the modern input-output theory, game theory, and general economic equilibrium.

CONTENTS—Introduction. Basic Concepts of Linear Programming. The Valuation Problem; Market Solutions. The Algebra of Linear Programming. The Transportation Problem. Linear-programming Analysis of the Firm. Application to the Firm; Valuation and Duality. Nonlinear Programming. The Statical Leontief System. Dynamic Aspects of Linear Models. Efficient Programs of Capital Accumulation. Linear Programming and the Theory of General Equilibrium. Linear

Programming and Welfare Economics. Elements of Game Theory. Interrelations between Linear Programming and Game Theory. Applied Linear Economics.

FERGUSON AND SARGENT—Linear Programming

Fundamentals and Applications

By ROBERT O. FERGUSON and LAUREN F. SARGENT, H. B. Maynard and Company, Inc.

342 *pp.*, 6 x 9 (1958).....$9.95*r*

A clear explanation of linear programming, the kind of business and industrial problems it can solve, and how to apply it in improvement of profit, sales, production, and other management planning. Shows executives and managers at all company levels how to determine where and how LP can be used effectively and how to develop applicational skills.

CONTENTS—I. INTRODUCTION. An Aid to More Effective Management Decisions. II. METHODS. The Transportation or Distribution Method. The Modi Method. The Simplex Method (Part 1). The Simplex Method (Part 2). The Ratio-analysis Method. The Index Method. III. APPLICATIONS. Recognizing Problems Which Can Be Solved by Linear Programming Methods. The Model. Assigning Customers' Orders to Several Plants at Maximum Profit Margin—Considering Manufacturing and Distribution Costs: The Walcab Company. Aligning Sales Effort and Manufacturing Capacity to Obtain the Most Profitable Share of the Market: The Textile Mills Company. Stabilizing Production and Employment Levels at Least Cost: The Arcam Company. Putting Linear Programming to Work: Problems, Possibilities. Predictions. IV. TECHNICAL APPENDICES. Mathematical Derivation of the Simplex Method for Solving Linear Programming Problems. Comparison of the Simplex Method and the Modi Method.

GALE—The Theory of Linear Economic Models

By DAVID GALE, Brown University.

330 *pp.*, 6 x 9, *illus.* (1960).....$10.50*i*

Provides the mathematical machinery needed for current linear economics. Linear programming—two-person games—equilibrium prices and dynamic stability—and static and dynamic theory of linear production models are some of the topics covered. Each model is described fully and illustrated with examples. Required mathematics is developed in a self-contained fashion. This guide to programming and related linear models is aimed at the needs of not only the mathematician and economist, but also at those concerned with management science, operations research, industrial mathematics, and engineering.

CONTENTS—I. Linear Programming: Examples, Definitions, and Statement of the Principal Theorems. Real Linear Algebra. The Theory of Linear Programming. Computation: The Simplex Method. Integral Linear Programming. Two-person Games: Examples, Definitions, and Elementary Theory. Solutions of Matrix Games. Linear Models of Exchange. Linear Models of Production.

GARVIN—Introduction to Linear Programming

By WALTER W. GARVIN, under the auspices of California Research Corp.

281 *pp.*, 6 x 9, 74 *illus.* (1960).....$8.95*c*

Filling the gap between the more abstract treatise intended for specialists and the extremely basic presentation for the amateur, this book sets forth the theory of linear programming as a tool to get useful answers to practical problems. It presents the theory in an easily understandable, but rigorous fashion, showing how to set up and solve linear programming models of many practical situations, and suggesting the flexibility of the method.

CONTENTS—Preface, PART I: THE GENERAL LINEAR-PROGRAMMING PROBLEM. Introduction. The Simplex Method. The Computational Procedure. Sensitivity Analysis. A Gasoline-blending Problem. PART II: THE TRANSPORTATION PROBLEM AND ITS VARIANTS. The Transportation Problem. Unbalance and Transshipment. Assignment Problems and the Caterer Problem. A Tanker-routing Problem. The Generalized Transportation Problem. PART III: SPECIAL METHODS. Upper Bounds. Statistical Linear Programming. The Revised Simplex Method. Resolution of Degeneracy. Parametric Linear Programming. A Simple Economic Model. Duality. The Warehouse Problem. References. Index.

GASS—Linear Programming, 2nd Ed.

Methods and Applications

By SAUL I. GASS, Systems Manager, I.B.M.

In Press

Revision of excellent text for courses at senior or graduate level. It provides a basic understanding of linear programming, the problems it can be used to solve, and the use of linear programming techniques to formulate and solve these problems. In this edition integer programming, decomposition algorithm, and a new section on sensitivity analysis are included. Material on available digital computer codes has been expanded, and new material and exercises are provided in a number of sections. The problems have been completely up-dated. All necessary mathematics are developed in the text.

SAATY—Mathematical Methods of Operations Research

By THOMAS L. SAATY, Science and Technology Bureau, Washington, D.C.

432 *pp.*, 6 x 9 (1959).....$11.50*i*

Covers within a well-rounded framework mathematical methods which, in the author's experience with operations research and its literature, have the widest use. After being exposed to this wide, well-integrated collection of methods, the reader should be able not only to connect and to expand many of these methods, but also to apply these ideas and to generate new ones.

CONTENTS.—Preface. Operations Research—History and Concepts. SCIENTIFIC METHOD—TRUTH; MATHEMATICS AND LOGIC—VALIDITY; OUTLINES OF SOME USEFUL MATHEMATICAL MODELS. Some Remarks on Scientific Method in Operations Research. Mathematical Existence and Logical Proof. Elementary Classical Methods Used in Model Formulation. OPTIMIZATION, PROGRAMMING, AND GAME THEORY. Optimization. Linear and Quadratic Programming. The Theory of Games. Some Optimization Problems. PROBABILITY, APPLICATIONS, STATISTICS, AND QUENCHING THEORY. Probability. Some Applications. Fundamental Statistics. Resumé of Quenching Theory. Some Probability and Statistics Problems. AN ESSAY. Some Thoughts on Creativity. Elementary Analytical Problems and Projects. Index.

Tables

ALLEN—Six Place Tables

With Explanatory Notes by EDWARD S. ALLEN, Iowa State College. Seventh Edition.

232 *pp.*, 4½ x 7 (1947).....$5.00*i*

An invaluable mathematical tool for engineers, mathematicians, and statisticians.

CONTENTS—Introduction—Theory of Logarithms and Explanation of Tables. Definition—Theorems—Logarithms to the Base 10: Numbers between 1 and 10; Numbers Not between 1 and 10—Computation with Logarithms—Interpolation—Logarithmic Computation Involving Trigonometric Functions—Tables of Natural Trigonometric Functions—Tables of Natural Logarithms, and of Exponential and Hyperbolic Functions—Exercises. TABLES: Squares, Cubes, Square Roots, Cube Roots, Circumferences, and Areas, from 1 to 1000. Fifth Roots and Fifth Powers, from 0.1 to 40. Circumferences and Areas of Circles from 1/64 to 100. Common Logarithms of Numbers, from 1,000 to 10,000. Common Logarithms of Sines, Cosines, Tangents and Cotangents, from 0° to 45°. Natural Trigonometric Functions, from 0° to 45°. Radians and Degrees. Functions of Radians. Logarithms of Factorials. Natural Logarithms of Numbers. Exponential, Hyperbolic, and Gamma Functions, Probably Integral. Trigonometric Formulas. Integrals. Mathematical Constants.

BURINGTON—Handbook of Mathematical Tables and Formulas

By RICHARD STEVENS BURINGTON, Bureau of Ordnance, Navy Department. Third Edition.

296 *pp.*, 5 *x* 8 (1948).....$3.95*hbL*†

Meets the practical needs of everyone interested in mathematics, chemistry, physics, engineering, and other fields in which mathematical computations and processes are required. Part I brings you a careful, concise summary of the most important formulas and theorems of algebra, trigonometry, analytic geometry, calculus, and vector analysis. A comprehensive table of derivatives and integrals is also included. Part II includes logarithmic and trigonometric tables of five places, tables of natural logarithms, exponential and hyperbolic functions, probability functions, squares, cubes, square roots, cube roots, reciprocals, and other numercial quantities.

DESCLOUX—Delay Tables for Finite- and Infinite-Source Systems

By A. DESCLOUX, Bell Telephone Labs, Inc.

440 *pp.*, 7¼ *x* 9⅞ (1962).....$15.00*i*

Presents tabulated values which enable the operations researcher and engineer to deal quickly with important classes of delay systems. Tables contain probabilities of delay, the average and standard deviation of the delay distributions, and values of the delay distributions themselves for systems with limited source inputs and negative-exponential service times. A feature of the tabulation is that the server occupancy (rather than the demand rate which appears here as a tabulated quantity) is used as one of the three independent parameters, the other two being the number of sources and the number of servers. The book includes a short table for systems with infinite source (Poisson, random) inputs. Operations researchers, systems engineers, and others charged with delay computations or estimates will find this a ready source of practical information.

ERDÉLYI—Higher Transcendental Functions

By A. ERDÉLYI, "Bateman Project Staff," California Institute of Technology; with the cooperation of three internationally known mathematicians and a staff of research assistants. Three volumes.

A set of references of advanced mathematics of great usefulness in many fields of engineering, physics, and mathematics, providing a comprehensive account of practically all the higher transcendental functions found most useful in pure and applied mathematics.

VOLUME I—302 *pp.*, 6 *x* 9, *illus.* (1953) $7.25*r*

This volume contains material on the gamma function and related functions, Legendre functions, the hypergeometric functions, confluent hypergeometric functions, and generalized hypergeometric functions.

CONTENTS—Preface. Foreword. Introduction. The Gamma Function. The Hypergeometric Function: First Part: Theory; Second Part: Formulas. Legendre Functions. The Generalized Hypergeometric Series. Further Generalizations of the Hypergeometric Function. The Confluent Hypergeometric Function. Subject Index. Index of Notations.

VOLUME II—396 *pp.*, 6 *x* 9 (1953)..$7.95*r*

This volume contains chapters on Bessel and related functions, error functions, exponential, sine, cosine integrals and related functions, parabolic cylinder functions, orthogonal polynomials, and elliptic functions and integrals.

CONTENTS—Foreword. Bessel Functions: First Part: Theory; Second Part: Formulas. Functions of the Parabolic Cylinder and of the Paraboloid of Revolution. The Incomplete Gamma Functions and Related Functions: Introduction. The Incomplete Gamma Functions. Special Incomplete Gamma Functions. Orthogonal Polynomials. Spherical and Hyperspherical Harmonic Polynomials. Orthogonal Polynomials in Several Variables: Introduction. Orthogonal Polynomials in the Triangle. Orthogonal Polynomials in Circle and Sphere. Hermite Polynomials of Several Variables. Elliptical Functions and Integrals. Introduction. Part One: Elliptic Integrals. Part Two: Elliptic Functions. Subject Index. Index of Notations.

VOLUME III—312 *pp.*, 6 *x* 9 (1955)..$6.95*r*

Volume III contains material on automorphic functions including elliptic modular functions, Lamé, Lamé-Wangerin, Mathieu functions, spheroidal and ellipsoidal wave functions, functions occurring in number theory, and some miscellaneous functions such as Mittag-Leffler's function.

CONTENTS—Foreword. Automorphic Functions. Lamé Functions. Mathieu Functions, Spheroidal and Ellipsoidal Wave Functions. Introduction to the Functions of Number Theory. Miscellaneous Functions. Generating Functions. Subject Index. Index of Notations.

ERDÉLYI—Tables of Integral Transforms

Edited by A. ERDÉLYI. Two volumes.

Tables of integrals involving higher transcendental function, designed for the use of mathematicians, scientists, and engineers. Although prepared as companion piece to the author's "Higher Transcendental Functions," each of these volumes may be used separately.

VOLUME I—6 *x* 9, *illus.* (1954).....$7.95*r*

CONTENTS—FOURIER TRANSFORMS. Fourier Cosine Transforms. Fourier Sine Transforms. Exponential Fourier Transforms. LAPLACE TRANSFORMS. Laplace Transforms. Inverse Laplace Transforms. MELLIN TRANSFORMS. Mellin Transforms. Inverse Mellin Transforms. Appendix. Index of Notations.

VOLUME II—451 *pp.*, 6 *x* 9, *illus.* (1954) $8.50*r*

Volume II contains Hankel transforms and other integral transforms whose kernel is a Bessel function, fractional integrals, Stieltjes, and Hilbert transforms, and a collection of integrals of higher transcendental functions.

CONTENTS—Preface. Standard Forms. BESSEL TRANSFORMS. Hankel Transforms. Y-Transforms. K-Transforms. H-Transforms. Kontorovich-Lebedev Transforms. MISCELLANEOUS TRANSFORMS. Fractional Integrals. Stieltjes Transforms. Hilbert Transforms. INTEGRALS OF HIGHER TRANSCENDENTAL FUNCTIONS. Orthogonal Polynomials. Gamma Function. Incomplete Gamma Functions and Related Functions. Legendre Functions. Bessel Functions. Hypergeometric Functions. Appendix. Index of Notations.

JAHNKE, EMDE, AND LOSCH—Tables of Higher Functions

By EUGENE JAHNKE and FRITZ EMDE. Revised by FRIEDRICH LOSCH, Professor, Stuttgart Technical College. Sixth Edition.

318 *pp.*, 5½ *x* 8½, 189 *illus.* (1960).$14.50*rf*

This classic work has been thoroughly revised and considerably expanded to make it even more useful to engineers and scientists everywhere. On the whole, the choice of material, which proved so satisfactory in former editions, has been retained. Numerous extensions and supplements have, however, been made to take account of new classes of higher functions that have become important in applications. To aid the computer, most tables have been provided with differences facilitating linear or quadratic interpolation. The bibliography has been updated.

CONTENTS—The Gamma Functions. The Exponential Integral and Related Functions. The Error Function and Related Functions. The Riemann Zeta Function. Elliptic Integrals. Weierstrass Elliptic Functions. The Theta Functions. Orthogonal Polynomials. The Legendre Functions. The Bessel Functions. The

† *Textbook edition available at educational list price.*

Mathieu Functions. The Confluent Hypergeometric Functions. Special Functions. BIBLIOGRAPHY. GENERAL INDEX.

SALZER, RICHARDS, AND ARSHAM—Table for the Solution of Cubic Equations

By HERBERT E. SALZER and CHARLES H. RICHARDS, General Electric Co., and ISABELLE ARSHAM, Diamond Ordnance Fuze Laboratories.

161 *pp.*, 5⅜ *x* 8 (1958).....$4.50*i*
*McG-H Paperbacks Ed.**

A table for the numerical solution of cubic equations having real coefficients, superseding other tables in number of decimal places, range, interval, required labor in finding all three roots, and convenience in use. Here the interval of 0.001 is fine enough for linear or quadratic interpolation, and the 7 decimal or 7 significant figure accuracy is greater than in other tables. There are completely adequate facilities for interpolation (first and second differences along-side function), and the range of argument covers every set of real coefficients. Presented with an introduction explaining the use of the table, interpolation, and comparison with other tables, the book is especially helpful for engineers, physicists, and applied mathematicians—including those engaged in computer and guided missile work.

* *Available only through your local bookstore.*

History of Mathematics

BELL—The Development of Mathematics

By E. T. BELL, California Institute of Technology. Second Edition.

637 *pp.*, 5 *x* 8 (1945).....$9.50*c*

Designed to give a knowledge and appreciation of the part played by mathematics in the evolution of civilization, this book presents a broad account of the main principles, methods, and theories of mathematics that have survived, from about 4000 B.C. to 1940.

CONTENTS—General Prospectus. The Age of Empiricism. Firmly Established. The European Depression. Detour through India, Arabia, and Spain. Four Centuries of Transition. 1202-1603. The Beginning of Modern Mathematics. 1637-1687. Extension of Number. Toward Mathematical Structure. Arithmetic Generalized. Emergence of Structural Analysis. Cardinal and Ordinal to 1902. From Intuition to Absolute Rigor. 1700-1900. Rational Arithmetic after Fermat. Contributions from Geometry. The Impulse from Science. From Mechanics to Generalized Variables. From Applications to Abstractions. Differential and Difference Equations. Invariance. Certain Major Theories of Functions. Through Physics to General Analysis and Abstractness. Uncertainties and Probabilities.

BELL—Mathematics, Queen and Servant of Science

By ERIC TEMPLE BELL, California Institute of Technology.

437 *pp.*, 5½ *x* 8, *illus.* (1951)
Cloth Edition $7.50*rd*
*McG-H Paperbacks Ed.**

The story of the history-making developments in pure and applied mathematics from ancient Euclidean geometry to the most recent wizardry in mathematical physics. Contains information on the personalities and philosophies of the great mathematicians of history, as well as perceptive résumés of their specific contributions to the moving force of this great science.

CONTENTS—Points of View. Mathematical Truth. Breaking Bounds. "The Same, Yet Not the Same." The Art of Abstraction. Oaks from Acorns. Pictorial Thinking. Landmarks Old and New. Groups. A Metrical Universe. The Queen of Mathematics. Abstraction and Prediction. From Cyzicus to Neptune. Two Kinds of Picture. The Chief Instrument of Applied Mathematics. Further Calculuses. Waves and Vibrations. Choice and Chance. "Storming the Heavens." Bedrock.

* *Available only through your local bookstore.*

Practical and Shop Mathematics

AXELROD—Machine Shop Mathematics

By AARON AXELROD, formerly Vocational and Technical High School, Bayonne, N.J., and New York University. Second Edition.

359 *pp.*, 6 *x* 9, *illus.* (1951).....$5.75*v*

This book covers all the mathematics needed by machine shop workers to solve problems pertaining to those machine tools found in any machine shop, such as the engine lathe, milling machine, shaper, drill press, grinder, etc. Also covers measuring instruments, such as micrometers of all types, verniers, height gages and gage blocks, as well as the sine bar.

CONTENTS—Shop Arithmetic. Measuring Tools of the Machine Shop. Weights and Measures. Practical Measurements. Percentage and Its Applications. Ratio and Proportion. Geometric Constructions. Shop Trigonometry. Speeds of Pulleys and Gears. Speeds and Feeds. Lathe Work. Gears. Milling-machine Work.

BRENEMAN—Mathematics

By JOHN W. BRENEMAN, Pennsylvania State University. Prepared under the direction of the Division of Engineering Extension, Pennsylvania State University. *Pennsylvania State University Industrial Series.* Second Edition.

224 *pp.*, 5¼ *x* 8¼, 157 *illus.* (1944)..$4.00*c*

A compact, elementary treatment of simple operations and fractions, ratio and proportion, areas and volumes of simple figures, tables, formulas, fundamentals of algebra, geometrical constructions, trigonometry, etc. The present edition contains 177 supplementary problems, many of them suggested by men teaching in industry and technical schools.

CONTENTS—Simple Operations. Common Fractions. Decimal Fractions. Ratio and Proportion. Powers and Roots. Areas and Volumes of Simple Figures; Circular Tables. Formulas. Fundamentals of Algebra. Equations. Simultaneous Equations. Geometrical Constructions. Trigonometry. Oblique Triangles. Logarithms. Solutions of Triangles by Logarithms.

COOKE—Basic Mathematics for Electronics

By NELSON M. COOKE, President, Cooke Engineering Company, Alexandria, Va. Second Edition of Mathematics for Electricians and Radiomen.

679 *pp.*, 6 *x* 9, 348 *illus.* (1960)....$10.75*t*†

Thorough and complete, with careful and painstaking explanations, this text provides a course in basic mathematics with applications to fundamental electric and electronic circuits. It gives the student a sound mathematical foundation and shows them how to apply this knowledge to the solution of practical circuits. Many changes in the new edition were made at the suggestion of over 500 users of the text who participated in a national survey.

CONTENTS—Introduction. Review of Arithmetic—Addition and Subtraction. Review of Arithmetic—Multiplication and Division. Review of Arithmetic—Fractions. Review of Arithmetic—Decimals. Review of Arithme-

† *Textbook edition available at educational list price.*

tic—Square Roots. Algebra—General Numbers. Algebra—Addition and Subtraction. Algebra—Multiplication and Division. The Slide Rule—Powers of Ten. Units and Dimensions. Equations. Ohm's Law—Series Circuits. Resistance—Wire Sizes. Special Products and Factoring. Fractions. Fractional Equations. Ohm's Law—Parallel Circuits. Meter Circuits. Voltage-Divider and Distribution Circuits. Simultaneous Equations. Generator, Motor, and Battery Circuits. Exponents and Radicals. Quadratic Equations. Kirdhhoff's Laws. Angles. Trigonometric Functions. Tables of Functions. Solutions of Right Triangles. Periodic Functions. Elementary Plane Vectors. Alternating Currents—Fundamental Ideas. Alternating Currents—Series Circuits. Alternating Currents—Parallel Circuits. Vector Algebra. Logarithms. Applications of Logarithms. APPENDIX—TABLES. Mathematical Symbols. Greek Alphabet. Abbreviations and Letter Symbols. Conversion Factors. Standard Annealed Copper Wire, Solid. Common Logarithms. Natural Sines, Cosines, and Tangents. Squares, Square Roots, and Reciprocals of Numbers from 1 to 1000. INDEX.

COOKE AND ORLEANS—Mathematics Essential to Electricity and Radio

By NELSON M. COOKE, Cooke Engineering Company, and JOSEPH B. ORLEANS, George Washington High School, New York, N.Y.

418 *pp.*, 6 *x* 9, 248 *illus.* (1943).....$5.10*v*

Presents the essentials of secondary school mathematics required for electricity and radio. Offering the technical content of both subjects side by side with the mathematics, it gives the student a quick working knowledge of theory and applications. The mathematics includes material of equations, powers of ten, factoring, logarithms, trigonometric functions, and vectors.

CONTENTS—Introduction. Literal Numbers. Addition and Subtraction. Multiplication. Division. Equations. Powers of Ten—Significant Figures. Units. Ohm's Law—Series Circuits. Resistance. Special Products and Factoring. Fractions. Equations Containing Fractions. Ohm's Law—Parallel Circuits. Graphs—Sets of Linear Equations. Generator, Motor, and Battery Circuits. Exponents and Radicals. Quadratic Equations. Kirchhoff's Laws. Logarithms. Application of Logarithms to Decibels and Transmission Lines. Angles. Trigonometric Functions. Tables of Functions. Solution of Right Triangles. Periodic Functions. Elementary Plane Vectors. Alternating Currents—Fundamental. Ideas. Alternating Currents—Series of Circuits. Alternating Currents—Parallel Circuits.

KUEHN—Mathematics for Electricians

By MARTIN H. KUEHN, Technical High School, Buffalo, New York. Third Edition.

338 *pp.*, 5½ *x* 8 (1949).....$6.75*tL*†

Includes a chapter reviewing the fundamental processes of arithmetic, a chapter on logarithms, and two chapters on alternating-current work. The chapter on power includes the concept of work and horsepower. The material has been arranged to provide a logical teaching sequence.

CONTENTS—Review of Fundamentals. Addition of Signed Numbers. Solution of Simple Equations. Ohm's Law. Solution of Series Circuits. Subtraction of Signed Numbers and Removal of Parentheses. Multiplication of Signed Numbers. Fractions. Mechanical Work and Power. Radical Quantities. Square Root. Multiplication and Division of Polynomials, Angles. Areas and Volumes. Factoring. Solution of Quadratic Equations. The Slide Rule. Graphs. Solution of Problems. Percentage. Parallel Circuits. Generator and Motor Problems. Battery Problems. Solution of Literal and Simultaneous Equations. Kirchhoff's Laws. Radio and Proportion. Similar Figures. Trigonometric Functions. Exponents and Logarithms. Fundamental Alternating-current Ideas. Vectors. Complex Quantities. Alternating Currents. Parallel Circuits. Three-phase Circuits.

PALMER AND BIBB—Practical Mathematics

By CLAUDE IRWIN PALMER and SAMUEL FLETCHER BIBB, Illinois Institute of Technology. Fourth Edition.

761 *pp.*, 5½ *x* 8, *illus.* (1952).....$7.95*t*†

This is a volume which has had wide appeal to students in extension courses, evening schools, technical institutes, and wherever the fundamentals of mathematics with practical applications have been taught.

CONTENTS—PART I—ARITHMETIC. Preliminary Work. Common Fractions, Decimal Fractions, Short Methods and Checks, Weights and Measures, Percentage and Applications, Ratio and Proportion, Powers and Roots. PART II—GEOMETRY. Fundamental Ideas in Geometry, Areas of Polygons, Triangles, The Circle, Construction and Graphical Methods, Prisms, Cylinders, Pyramids, Cones and Frustums, The Sphere, Various Other Solids. PART III—ALGEBRA. Introduction to Algebra, Addition and Subtraction, Equations, Multiplication, Division, Special Products and Quotients and Factoring, Equations, Fractions, Equations and Applications, Equations with One or More Unknowns, Exponents, Powers and Roots, Quadratic Equations, Variation, Graphical Methods and Functions, Logarithms. PART IV—TRIGONOMETRY. Introduction to Angles, Trigonometric Functions, Tables and Their Uses, Right Triangles, Useful and More Difficult Problems, Relation between Trigonometric Functions, Graphical Representation of Trigonometric Functions, Functions Involving More than One Angle, Solution of Oblique Triangles. Tables.

PALMER AND BIBB—Practical Mathematics

By CLAUDE IRWIN PALMER and SAMUEL FLETCHER BIBB, Illinois Institute of Technology.

Four volumes. Pocket size. Illus. Cloth.

PART I. Arithmetic with Applications
Fifth Edition. 171 *pp.*, 5½ *x* 8, 31 *illus.* (1949).....$4.50*v*

PART II. Algebra with Applications
Fifth Edition. 185 *pp.*, 5½ *x* 8, *illus.* (1950) $4.50*v*

PART III. Geometry with Applications
Fifth Edition. 200 *pp.*, 5 *x* 8, *illus.* (1950) $4.50*v*

PART IV. Trigonometry and Logarithms
Fifth Edition. 200 *pp.*, 5½ *x* 8, *illus.* (1951) $4.50*v*

PALMER AND STOUT—Practical Calculus

By CLAUDE IRWIN PALMER, Illinois Institute of Technology, and CLAUDE E. STOUT, General Motors Institute. Second Edition.

470 *pp.; pocket size, illus.* (1952)....$7.95*t*

This is a standard manual, widely known for its practical exposition of calculus. This book explains what calculus is, and shows how and when it can be used to get quicker, easier solutions to many mathematical problems encountered in industrial and shop work.

CONTENTS—Preface. A Word to the Student. Fundamental Ideas. Limits. Derivatives. Differentiation of Algebraic Functions. Curves and Their Equations. Problems in Maxima and Minima. Changes in Quantities. Differentials. Rate of Change. Speed, Velocity, Acceleration. Integration. Trigonometric Functions. Logarithmic and Exponential Functions. Three Important Types of Functions. Curvature, Tangents, Normals. Methods of Integration. Plane Areas. Definite Integrals. Integral Limit of Sum. Arc Lengths. Areas of Surfaces. Volumes. Functions of Several Variables. Partial Differentiation. Double and Triple Integration. Surfaces. Volumes. Center of Gravity. Moment of Inertia. Further Applications of Integration. Series. Taylor's Theorem. Analytic Geometry. Supplementary Topics. Appendix. Greek Alphabet. Answers. Index.

SINGER—Basic Mathematics for Electricity, Radio, and Television

By BERTRAND B. SINGER, Samuel Gompers Vocational and Technical High School, Bronx, N.Y.

500 *pp.*, 6 *x* 9, *illus.* (1957).....$8.25*t*†

Here, mathematical principles are presented as dynamic tools for solving electrical problems.

† *Textbook edition available at educational list price.*

The volume may be likened to two parallel tracks—one electrical and the other mathematical. A start is made along the electrical track. Whenever a point is reached which requires a new mathematical concept, necessary for the continuance of the electrical development, a cross-over is made to the mathematics track. The new concept is developed until it can again be switched to the electrical track. The author covers only the basic mathematics required to solve problems arising in the electrical, radio, and television trades. The material is presented in "Job" form. This text is suitable for a practical course in basic mathematics for students preparing for the electrical, radio, and television trades, and for a refresher course in the mathematics needed by skilled mechanics in these trades.

CONTENTS—Introduction to Electricity. Simple Electrical Circuits. Electrical Measurements. Series Circuits. Parallel Circuits. Combination Circuits. Electrical Power. Applications of Series and Parallel Circuits. Efficiency. Electrical Energy. Resistance of Wire. Size of Wiring. Trigonometry for Alternating Current Electricity. Introduction to AC Electricity. Coils and Transformers. Capacitance. Series AC Circuits. Parallel AC Circuits. AC Power. Appendix I—Bibliography. Appendix II—Answers to Problems.

VAN LEUVEN—General Trade Mathematics

By EDWIN P. VAN LEUVEN, formerly Bakersfield High School and Bakersfield College. Second Edition.

553 *pp.*, 6 *x* 9, 380 *illus.* (1952)....$6.95*r*†

Gives the mathematics needed to solve shop problems in the basic trades. In the simplest manner, it presents the principles of arithmetic, algebra, and geometry which have proved useful in these trades.

CONTENTS—Whole Numbers. Common Fractions. Decimal Fractions. Powers and Roots. Percentage. Vocational Finance. Rules and Formulas. Ratio and Proportion. Surface Measurement. Volume. Constructing Geometric Figures. Direct Measurement. Lumber Measurement. Plastering and Protective Coatings. Pulley Speeds and Diameters. Velocity or Surface Speed in Ft./Min. Tapers. Screw Threads. Millingmachine Work. Mechanic. Electricity. Machines. Efficiency.

WILSON AND ROGERS—Carpentry Mathematics

By J. DOUGLAS WILSON, Los Angeles City Schools, and CLELL M. ROGERS, Venice High School, Venice, California. Second Edition.

232 *pp.*, 5½ *x* 8, 114 *illus.* (1949)...$4.40*v*

The main objective is to give high school students and carpentry apprentices a working knowledge of mathematics applied to everyday problems covering every phase of the carpenter's job. It includes much related information dealing with carpentry methods and operations, explanation of carpentry terms, etc.

CONTENTS—The Woodworking Field. Whole Numbers. Decimals. Fractions. Percentage. Mensuration. Lumber and Board Measure. Arithmetical Review. Tables and Formulas.

WOLFE AND PHELPS—Practical Shop Mathematics

By JOHN H. WOLFE, formerly with Ford Motor Company, and EVERETT R. PHELPS, Wayne State University, Detroit, Michigan.

Volume I—Elementary Shop Mathematics. Fourth Edition.

398 *pp.*, 5½ *x* 8¼, *illus.* (1959).....$5.20*v*

The Fourth Edition of this widely used shop mathematics text now includes new and additional material on checking multiplication by the *excess of nines* method; the simple theory of gear ratios and lead screws, previously found in Volume II; plain and differential indexing; and the *sine law* and *cosine law* for solving oblique triangles, as well as the method of breaking up the triangle into right triangles. The new edition offers improved clearness and readability. *Practical Shop Mathematics* follows the traditional high school sequence in presenting arithmetic review, algebra, geometry, and trigonometry. It provides hundreds of actual shop problems and includes complete proofs for 45 carefully selected geometric theorems—those used most often in solving shop problems. Its use of variables in problems—a number of values for one dimension—helps to insure independent work and enables the teacher to assign the same problems to a number of students. Through the use of the variable system, the book actually provides 6400 problems. Throughout, the book reflects the authors' shop and teaching experience and their ability to make shop mathematics understandable and interesting.

CONTENTS—Preface. Use of the Variable System. Common Fractions. Checking Multiplication and Division by the Excess of Nines. Decimals. Micrometers. Verniers, and Bevel Protractors. Algebra. Gear Ratios and Lead Screws. Plain and Differential Indexing. The Slide Rule. Geometry. Trigonometry. Tables of Trigonometric Functions. Greek Alphabet. Useful Formulas for Ready Reference. Answers to Problems. Index.

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$5.20*v*

The Fourth Edition of Volume II gives special treatment to the geometry of compound angles. It includes special mathematical methods for boring compound angular holes and for checking them with precision instruments. It presents a new theory showing how to bore and check multiple compound angular holes which have a definite relation to each other. The new edition also provides new material on the theory of planetary gearing, offering a more general conception of design principles. It includes new principles and formulas in the theory of continued fractions, which are used for computing change-gears on up-to-date gear hobbing machines. It offers a special method for computing continued and combining fractions on the calculating machine. The new edition contains many new illustrations, explanations, and new problems.

CONTENTS—Use of the Variable System. Solid Geometry Compound Angles. Compound Angles Applied to the Mounting of Parts on Adjustable Angle Plates. Miscellaneous Applications of Compound Angles. Screw Threads. Gears. Planetary Gearing. Combining Fractions and Continued Fractions. Factor Table. Answers. Index.

WOLFE, MUELLER, AND MULLIKIN—Practical Algebra with Geometrical Applications

By JOHN H. WOLFE, formerly with Ford Motor Company, WILLIAM F. MUELLER and SEIBERT D. MULLIKIN, Ford Motor Company.

314 *pp.*, 4¾ *x* 7½, *illus.* (1940).....$5.50*v*
*McG-H Paperbacks Ed.**

Provides shop men and apprentices with the tools they need to solve problems arising in their work. The text begins with simplest algebraic concepts, goes on with geometrical applications, and a treatment of trigonometry to prepare the reader for accurate computations of those problems involving trigonometry. Many practice problems are included. Answers to every third problem are given.

* *Available only through your local bookstore.*

† *Textbook edition available at educational list price.*

WOLFE, MUELLER, AND MULLIKIN—Industrial Algebra and Trigonometry with Geometrical Applications

By JOHN H. WOLFE, formerly Ford Motor Company, WILLIAM F. MUELLER and SEIBERT D. MULLIKIN, Ford Motor Company.

McG-H Paperbacks Ed. $3.25*pa**

This book offers thoroughly practical training in applying mathematics to the solution of typical mechanical and electrical engineering problems in modern industry. Practically all the geometrical problems were selected from thousands of examples occurring in the Engineering Department of the Ford Motor Company. A special feature is the classification and duplication of problems as needed to ensure mastery of principles.

CONTENTS—Fundamental Operations. Factoring. Fractions. Equations. Exponents and Radicals. Simultaneous Linear Equations. Quadratic Equations. Systems of Equations. Radical Equations. Trigonometry. Trigonometric Functions (Acute Angles). Functions of Any Angle. Logarithms. Oblique Triangles. Analytic Trigonometry (Functions of Two Angles). Higher Degree Equations. Radian (Circular) Measure. Compound Angles. Tables.

* *Available only through your local bookstore.*

Business Mathematics

Business Mathematics and Arithmetic

BIRCH AND KLINE—Applied Business Calculation

By C. E. BIRCH, Brescia College and Dr. VIVIAN W. KLINE. Third Edition.

180 *pp.*, 6 *x* 9 (1954).....$2.50*bc*

A combination textbook and workbook covering the fundamental operations, decimals, percentage, interest, and a wide range of practical applications. Throughout the book emphasis has been placed on *arithmetic calculation* rather than explanations of business procedures and forms.

CONTENTS—Part One—Addition. Part Two—Subtraction. Part Three—Multiplication. Part Four—Division. Part Five—Fractions. Part Six—Business Applications. Part Seven—Interest.

BEIGHEY AND BORCHARDT—Modern Business Mathematics

A Text-Workbook for Colleges

By CLYDE BEIGHEY, Western Illinois University, and GORDON C. BORCHARDT, MacCormac College of Commerce. Third Edition.

224 *pp.*, 8½ *x* 11, *illus.* (1960).....$3.75*bc*

Tests .....$.95*bc*

New text-workbook for post-high school classes in business mathematics. Provides the basic skill, information, and practical application required to develop competence in performing typical office computations. Refreshes fundamental concepts and techniques. Then, gives carefully paced training in functional use of basic skills, and new techniques for figuring out answers to everyday business problems.

CONTENTS—Review of Basic Fundamentals of Mathematics. Fractions and Decimals. Aliquot Parts and Percentage. The Mathematics of Buying and Selling Goods. The Mathematics of Overhead and Profit. The Mathematics of Wages and Salary Records. The Mathematics of Borrowing and Lending Money. The Mathematics of Stocks and Bonds. The Mathematics of Insurance. The Mathematics of Depreciation and Taxes.

HUFFMAN, TWISS, AND WHALE—Arithmetic for Business and Consumer Use

By HARRY HUFFMAN, Virginia Polytechnic Institute, RUTH M. TWISS, and LESLIE J. WHALE, Department of Public Schools, Detroit, Michigan. Second Edition.

512 *pp.*, 6 *x* 9, *illus.* (1962).....$4.96*b*

Tests .....$.92*b*

Up-to-date, 133 unit, lesson-planned text written from the personalized consumer approach. All basic arithmetic skills are re-established in an entirely new and fresh way. As students progress, each skill is cumulatively reinforced. Each unit is introduced by a common social and economic experience. Covers such recent developments as research about computation difficulties and fractions in business and industry, plus daily warm-ups, testing yourself units, vocabulary, and more.

LUND—Canadian Business Mathematics

By CATHERINE LUND, Ryerson Institute of Technology, Toronto.

BOOK I

358 *pp.*, 6 *x* 9, *illus.* (1963).....$3.00

BOOK II

In Press

A lucid and stimulating introduction to Business Mathematics, designed for high school students encountering the subject for the first time. Commencing with a thorough review of basic mathematics and an introduction to the most useful concepts of algebra, the applications of mathematics in business are presented. Algebraic equations, one of the most useful techniques of business mathematics, are introduced to the student quite early in the book.

Each chapter is headed by a graph and a business problem introducing the theme of the chapter, and workout exercises follow *each section* of each chapter. This book is one of the first basic texts ever to deal with the concept of "sets," a concept which is the keystone of modern mathematics.

MEIER AND ARCHER—An Introduction to Mathematics for Business Analysis

By ROBERT C. MEIER and STEPHEN H. ARCHER, both College of Business Administration, University of Washington.

283 *pp.*, 6 *x* 9, 85 *illus.* (1960).....$7.50*c*

For students of business and economics, and for businessmen with basic training in algebra and trigonometry, who want to learn to apply mathematical and statistical techniques in the solution of typical business problems. Concepts are introduced and explained with business examples, including exercises which develop skill in mathematical procedures and in making applications to actual business situations.

CONTENTS—Mathematical Relationships; Introduction; Functions; Equations; Inequalities; Tables; Interpretation of Mathematical Relationships. Graphical Representation of Relationships: Graphs of Equations in One and Two Dimensions; Graphs of Equations in Three Dimensions; Graphs of Inequalities. Slopes: Linear Functions; Nonlinear Functions; Three or More Variables. Solutions of Equations and In-

equalities; Solution of Systems of Equations; Systems of Linear Equations; Nonlinear and Mixed Systems; Systems of Linear Equalities and Inequalities, Linear Programming. Vectors and Matrices: Vectors; Matrices; The Determinant and Inverse of a Matrix. Progressions: Arithmetic Progressions; Geometric Progressions; Mathematics of Finance and Investment. The Derivative of a Function: Additional Properties of Functions; The Limit of a Function; Continuity of Functions; Differentiation; Use of Tables of Derivatives; Interpretation of Derivatives; Existence of Derivatives. Higher and Partial Derivatives: Higher Derivatives; Maxima, Minima, and Inflection Points; Partial Derivatives. Integration: Indefinite Integrals; Interpretation and Application of Indefinite Integrals; Additional Techniques of Integration; Definite Integrals; Improper Definite Integrals; Additional Methods of Evaluating Definite Integrals. Probability: Basic Concepts and Operations; Random Variables and Frequency Distributions; Measures of the Characteristics of Frequency Distributions; Permutations and Combinations; Discrete Frequency Distributions; Continuous Frequency Distributions. Index.

RICHTMEYER AND FOUST—Business Mathematics

By CLEON C. RICHTMEYER and JUDSON W. FOUST, Central Michigan University. Fourth Edition.

412 *pp.*, 6 *x* 9, 70 *illus.* (1958).....$6.95*c*

Presupposing only elementary and secondary school mathematics, this text is designed primarily for college classes that include students who are preparing to teach commercial arithmetic in secondary schools, students who are planning to enter various commercial fields, and students who wish a general course in practical mathematics. All topics are developed in detail and are followed by a large number of illustrative examples, worked out in detail, accompanied by step-by-step explanations. Algebraic manipulations and symbolism are kept to a minimum.

CONTENTS—Preface. Operations with Integers. Common Factors. Decimal Fractions. Percentage and Applications. Simple Interest and Bank Discount. Graphs. Measurement. Denominate Numbers. Geometric Figures. Common Logarithms. Arithmetic Progressions and Short-term Installment Buying. Geometric Progressions and Compound Interest. Annuities and Applications. Equations. An Introduction to Statistics. Statistics—Grouped Data. Miscellaneous Review Problems. Tables. Answers to Self-tests. Answers to Odd-numbered Exercises and Problems. Index.

ROSENBERG—College Business Mathematics

By R. ROBERT ROSENBERG, Jersey City Board of Education. Third Edition.

432 *pp.*, 6 *x* 9, *illus.* (1961).....$5.95*bc*
Principles and Problems.....$3.40*bc*
Tests $1.00*bc*

This text, with its unit plan and its wealth of problem material, achieves better-than-usual results in developing a sound knowledge of basic mathematical principles and the skill in fundamental arithmetic necessary for success in other areas of business study. The presentation is based on *reasoning* rather than memorization. Functional in sequence: *first*, a topic is discussed; *then*, problems are provided to *fix* the principles; *finally*, drills, reviews, and tests are given to measure progress.

CONTENTS—Part I. Basic Business Mathematics. Survey Test in Arithmetic Fundamentals. Fundamental Operations. Using Common and Decimal Fractions. Applying Percentage. Computing Interest Charges. Discounting Notes and Drafts. Consumer Credit. Cash and Trade Discounts. Computing Markup, Retail, and Commission. Marking Goods. The Arithmetic of Payrolls. Computing Property and Income Taxes. Social Security Benefits. Part II. Advanced Business Mathematics. Present Worth and True Discount. Making Partial Payments on Notes. Equation of Accounts. Distributing Profits and Dividends. The Valuation of Good Will. Stock Purchases and Stock Sales. Trading on the Bond Market. Debt Repayment Plans. The Arithmetic of Insurance. Business Graphs. Part III. Appendix. Civil Service and Employment Examination Problems. Denominate Numbers. Square Root, and Practical Measurements. The Language of Business Mathematics. GLOSSARY. INDEX.

ROSENBERG—Principles and Problems in College Business Mathematics

A Text-Workbook

By R. ROBERT ROSENBERG, Jersey City Board of Education. Third Edition.

224 *pp.*, 8¼ *x* 11 (1961).....$3.40*bc*

New text-workbook for the short, intensive course. Also suitable as a supplement to any business mathematics text for longer courses. Gives latest information on present worth and true discount, equation of accounts, debt repayment plans, taxes, social security, and payrolls. Develops speed and accuracy in the fundamental processes of business mathematics, ability to make mental computations, skill in using practical short-cuts, and habits of systematic procedure and neatness. Most chapters give a summary of related mathematics, exercises for practice, and review and application.

CONTENTS—Survey Test in Arithmetic Fundamentals. Fundamental Operations. Using Common and Decimal Fractions. Applying Percentage. Computing Interest Charges. Discounting Notes and Drafts. Consumer Credit. Cash and Trade Discounts. Computing Markup, Retail, and Commission. Marking Goods. The Arithmetic of Payrolls. Computing Property and Income Taxes. Social Security Benefits. Present Worth and True Discount. Making Partial Payments on Notes. Equation of Accounts. Distributing Profits and Dividends. The Valuation of Good Will. Stock Purchases and Stock Sales. Trading on the Bond Market. Debt Repayment Plans. Arithmetic of Insurance. Business Graphs.

ROSENBERG—Business Mathematics—Exercises, Problems, and Tests

By R. ROBERT ROSENBERG, Jersey City Board of Education. Second Edition.

224 *pp.*, 8½ *x* 11, *illus.* (1959).....$2.96*b*

A Text-workbook for use with or without another text. Systematically develops speed and accuracy in the fundamental processes of business arithmetic. Topics and subjects are truly vocational in character, and are necessary for a better understanding of other business subjects. Teaches habits of systematic procedure and neatness that will tend to carry over into everything the student does.

ROSENBERG AND LEWIS—Business Mathematics

By R. ROBERT ROSENBERG, Jersey City Board of Education and HARRY LEWIS, East Side High School, Newark, New Jersey. Sixth Edition.

576 *pp.*, 6 *x* 9, *illus.* (1963).....$5.20*b*
Workbook $2.16*b*
Tests .....$.96*b*

A significant revision of Gregg's popular business mathematics book aimed toward simplicity and broader coverage. Designed especially for the one-year high school course, the book has a functional approach to reteaching the fundamentals, an effectively organized teaching pattern and realistic illustrations. Practical business applications are stressed throughout. All problems have been graded in order of difficulty, easy one leading up to more difficult. Special problems have been provided that parallel the New York State Regents problems.

ROSENBERG AND LEWIS—Essentials of Business Mathematics, 6th Ed.

By R. ROBERT ROSENBERG, Jersey City, New Jersey; and HARRY LEWIS, East Side High School, New Jersey.

In Press

This new business math text reflects the most modern thinking in mathematics content and instruction to prepare students for effective performance as workers and consumers. Ideal for the short course.

SNYDER—Elements of Business Mathematics for Colleges

By LLEWELLYN R. SNYDER, City College of San Francisco.

249 *pp.*, 6 *x* 9 (1956).....$5.50*c*

Student's Workbook for Elements of Business Mathematics.....$2.95*c*

A simple, easily understandable text providing the reader with a basic knowledge and an employable skill in the arithmetic computations necessary for a successful business career. Only problems that are practical in nature—problems that occur constantly in business and personal life are included in this book.

CONTENTS—BASIC BUSINESS MATHEMATICS. Fundamentals of Addition and Subtraction. Fundamentals of Multiplication and Division. Use of Fractions in Business. Decimal Fractions and Percentage. APPLIED BUSINESS ARITHMETIC. Payrolls, Wages, and Commission Accounts. Buying and Marking Goods, Inventories. Borrowing and Lending Money. Distribution of Ownership and Profits. Business Statements and Operations. Appendix I: Exercises for Oral Practice in Fundamental Operations. Appendix II: Decimal Pointers—A Simplified Explanation of Decimals.

SNYDER—Essential Business Mathematics, 4th Ed.

By LLEWELLYN R. SNYDER, City College of San Francisco.

513 *pp.*, 6 *x* 9, *illus.* (1963).....$7.50*c*

Student's Workbook.....$2.95*c*

Increases the student's skill in the arithmetic computation of practical financial problems of a business, civic, or personal nature. It forms a basis for subsequent or concurrent courses in accounting, investments, business finance, money and banking, etc. The material has been thoroughly revised and updated.

CONTENTS—Mechanics of Computation. Fundamentals of Problem Solving. Simple Interest. Bank Discount, Present Value, Partial Payments, and Periodic Payment Plans. Payrolls, Wages, and Commission Accounts. Purchase Discounts and Markup. Problems in Retailing. Sales and Property Taxes; Depreciation; Overhead; Averages; Business Statements. Distribution of Ownership and Profits. Transactions in Corporate Securities. Personal and Business Insurance. Periodic and Compound Interest, Annuities, Sinking Funds, Amortization. Appendix I: Multiplication Short Cuts and Short Methods of Adding Two Fractions or Subtracting Fractions. Appendix II. Roots and Powers and Measurements with Reference Table. Appendix III. Business Graphs. Answers to Odd-numbered Problems.

Mathematics of Finance

FERNS—Mathematics of Canadian Finance

By H. H. FERNS, Univ. of Saskatchewan.

320 *pp.*, 6 *x* 9, *illus.* (1963).....$7.00*c*

An introduction to the mathematics of finance written entirely from a Canadian viewpoint. This book includes material on the operation and application of electronic computers in business and finance.

HUMMEL AND SEEBECK—Mathematics of Finance

By PAUL M. HUMMEL; and CHARLES L. SEEBECK, JR., University of Alabama. Second Edition.

372 *pp.*, 6 *x* 9 (1956).....$6.75*c*

This book thoroughly covers the mathematics involved in finance and investments, including simple interest, bank discount, compound interest, annuities, perpetuities, sinking funds, amortization of debts, installment buying, bonds, depreciation, life annuities, and life insurance. There is also supplementary material on progressions, logarithms, and various approximation methods.

CONTENTS—Simple Interest. Compound Interest. Equations of Equivalence. Simple Annuities. Ordinary General Annuities. Amortization and Sinking Funds. Perpetuities. Bonds. Depreciation. General Annuities—Advanced Topics. Approximating Methods. Life Annuities and Life Insurance. Appendix. Review Exercises. Answers to Odd-numbered Problems. Tables. Index.

SMAIL—Mathematics of Finance

By LLOYD L. SMAIL, deceased.

282 *pp.*, 6 *x* 9, 61 *illus.* (1953).....$6.50*c*

Text for a standard one-semester course, especially for students in business administration or commerce. All important definitions and results have been carefully formulated and displayed in separate italicized statements. Fundamental concepts are illustrated at the beginning of their discussions by detailed numerical examples. Certain important topics of algebra which are particularly needed in this subject are fully treated in an appendix.

CONTENTS—Simple Interest and Discount. Compound Interest and Discount. Equations of Value. Annuities Certain: Simplest Case. Annuities Certain: More General Cases. Amortization and Sinking Funds. Depreciation. Valuation of Bonds. Life Annuities and Life Insurance. Supplementary Exercises. Appendix: Topics from Algebra. Logarithms. Progressions. Binomial Theorem. Abridged Multiplication. Tables. Answers to Odd-numbered Exercises. Index.

Tables

KENT AND KENT—Compound Interest and Annuity Tables

By FREDERICK C. KENT and MAUDE E. KENT.

214 *pp.* (1926).....$8.00*i*

Gives compound interest and annuity values for 36 rates of interest and values in part for 15 additional rates—or 51 rates in all—for 1–100, 1–200, 1–300 interest periods, all expressed accurately to ten decimal places. Conversion factors for 10 decimal places are given and quotient tables and logarithms are included.

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David Blackwell, Consulting Editor
University of California at Berkeley

Bharucha-Reid—Elements of the Theory of Markov Processes and Their Applications
Ehrenfeld and Littauer—Introduction to Statistical Method
Graybill—An Introduction to Linear Statistical Models, Vol. I
Mood and Graybill—Introduction to the Theory of Statistics
Wadsworth and Bryan—Introduction to Probability and Random Variables
Weiss—Statistical Decision Theory
Wolf—Elements of Probability and Statistics

General and Introductory Statistics

DIXON AND MASSEY—Introduction to Statistical Analysis

By W. J. DIXON and F. J. MASSEY, JR., University of California, Los Angeles. Second Edition.

488 *pp.*, 6 *x* 9, 85 *illus.* (1957).....$7.95*c*

An extremely well-organized basic text in statistics. It requires no mathematical experience beyond algebra and is primarily intended for students who will go into specialized statistics courses in their chosen fields. It also serves admirably as a terminal textbook. It discusses fundamental concepts that can be applied to many fields, and examples are drawn from agriculture, business, chemistry, engineering, medical research, and psychology.

CONTENTS—Introduction. Distributions. Introduction to Measures of Central Value and Dispersion. Universe and Sample. The Normal Distribution. Various Measures of Central Value and Dispersion. Statistical Inference. The Variance: Estimation and Tests of Hypotheses. The Mean: Estimation and Tests of Hypothesis. Analysis of Variance. Regression and Correlation. Analysis of Covariance. Enumeration Statistics. Probability of Accepting a False Hypothesis. Macrostatistics. Microstatistics. Nonparametric Statistics. Sequential Analysis. Sensitivity Experiments. Appendix. Index.

EHRENFELD AND LITTAUER—Introduction to Statistical Method

By SYLVAIN EHRENFELD and SEBASTIAN B. LITTAUER, both Columbia Univ. *Series in Prob. & Statis.*

In Press

Rigorous introduction to topic for scientists and engineers at sophomore-junior level, providing thorough background of methods and techniques for use of probability and statistical inference in decision problems. Wide variety of problems are included. Calculus is prerequisite.

CONTENTS—Variability, Experimental Inference, and Decision Making. Some Principles of Probability. Distribution Functions. Properties of Distributions. Some Useful Distributions. Decision Making. Statistical Hypothesis Testing. Estimation. Linear Regression. Decision Making Under Unstable Uncertainty and Statistical Stability and Control. Appendix.

McCARTHY—Introduction to Statistical Reasoning

By PHILIP J. MCCARTHY, Cornell University.

392 *pp.*, 6 *x* 9, *illus.* (1957).....$7.50*c*

This book presents a careful introduction to statistical reasoning to those with a nonmathematical background. The basic elements of statistical reasoning are presented in as rigorous a fashion as possible, assuming little prior mathematical training. Illustrative material has been drawn primarily from investigations which are regarded in the social sciences as being important and fundamental. The author believes that statistics deserves serious study in its own right and that most people who study statistics are not equipped to handle a mathematical approach.

CONTENTS—Preface. Introduction. The Components of a Statistical Investigation. The Distribution of a Variable. The Location of a Distribution. The Spread of a Distribution. Simple Random Sampling. Experiments with Uncertain Outcomes and Probability. The Binomial Probability Model and Statistical Inference. Drawing Statistical Inference from the Arithmetic Mean of a Large Sample. Elements of Sample Design. X^2 Procedures for Qualitative Data. The Linear Association of Two Quantitative Variables. Index.

SPROWLS—Elementary Statistics

By R. CLAY SPROWLS, University of California, Los Angeles.

392 *pp.*, 6 *x* 9, 90 *illus.* (1955).....$6.95*c*
Workbook $3.50*c*

Written primarily for the person who will be exposed to statistical statements, arguments, and reports. The text is therefore organized around a fourfold central theme: 1) Statistics is the science of making decisions based upon incomplete knowledge. 2) Implicit in making a decision is the acceptance of one of the two alternative hypotheses. 3) Associated with the acceptance of either hypothesis is the risk that the one selected is incorrect. 4) The function of statistics is to aid in the formulation of the alternative hypotheses and the evaluation of the associated risks of being wrong.

CONTENTS—Statistics—The Science of Making Decisions from Observations. Tools—Notation, Probability, and the Binomial Distribution. Statistical Inference in the Discrete Case: Binomial Distribution (I). Statistical Inference in the Discrete Case: Binomial Distribution (II). Statistical Inference: Estimation of a Proportion. Statistical-Research Methodology. Tools—Frequency Distributions, Averages, and Measures of Dispersion. Statistical Inference: Frequency Distributions. Statistical Inference: The Arithmetic Mean and Related Problems. Simple Linear Regression and Correlation. The Analysis of Time Series: Examples, Point of View, and Tools. The Analysis of Time Series: Seasonal Variation. The Analysis of Time Series: Trends and Cycles. Index Numbers. Miscellaneous Topics. Appendix. Index.

STEEL AND TORRIE—Principles and Procedures of Statistics

With Special Reference to the Biological Sciences

By ROBERT G. D. STEEL, North Carolina State University; and JAMES H. TORRIE, University of Wisconsin.

481 *pp.*, 6 *x* 9, 41 *illus.* (1960)....$10.50*c*

Using a nonmathematical approach, the authors present the analysis of variance as early as possible in a text that stresses statistical concepts. Regression and covariance are treated thoroughly and comprehensively; discrete data are considered in later chapters. Illustrative material is drawn from many fields within the biological sciences. The book is intended primarily as a text for upper-division and graduate students and as a reference for re-

search workers in biology and agriculture. Class exercises involving sampling and illustrating statistical theory are provided, and questions and problems are included for student solution.

CONTENTS—Preface. Selected Symbols. Introduction. Observations. Probability. Sampling from a Normal Distribution. Comparisons Involving Two Sample Means. Principles of Experimental Design. Analysis of Variance I: The One-Way Classification. Analysis of Variance II: Multiway Classifications. Linear Regression. Linear Correlation. Analysis of Variance III: Factorial Experiments. Analysis of Variance IV: Split-plot Designs and Analysis. Analysis of Variance V: Unequal Subclass Numbers. Multiple and Partial Regression and Correlation. Analysis of Covariance. Nonparametric Statistics. Sampling Finite Populations. APPENDIX. Tables.

WAUGH—Elements of Statistical Method

By A. E. WAUGH, University of Connecticut. Third Edition.

531 *pp.*, 6 *x* 9, 69 *illus.* (1952).....$7.95*c*

Statistical Tables and Problems. Third Edition.....$3.75*c*

Presupposes no mathematics beyond familiarity with high school algebra. It is, however, mathematically sound, and can be used either by students who intend to take only one semester of statistics or students who expect to go on to take further courses. As in earlier editions, the book is concerned with general statistics. Illustrations are taken from diverse fields. As before, the book is notable for the simplicity and directness of its treatment—it is written in beginner's language.

CONTENTS—Preface. The Nature of Statistics. The Meaning of Numbers. The Frequency Distribution. Measures of Central Tendency. Measures of Dispersion. Simple Probability and the Normal Curve. Moments, Frequency Curves, and the Chi-square Test. Measures of Reliability. The Analysis of Variance. Fitting Straight Lines. Curve Fitting. Historical Data. Index Numbers. Simple Correlation. Multiple Correlation. Appendixes. Author Index. Subject Index.

WOLF—Elements of Probability and Statistics

By FRANK L. WOLF, Carleton College. *Series in Prob. & Statis.*

337 *pp.*, 6 *x* 9 (1962).....$7.50*c*

Here is a mathematical, logically sound, and eminently teachable introduction to probability and statistics which, while requiring only high school algebra, emphasizes the logical structure of these subjects. It establishes a firm understanding of the notion of probability for discrete variables before taking up statistical applications and continuous variables. Many exercises apply results to data of immediate importance to the student. A probability distribution is introduced as a mathematical model for an experimental situation, and the general notion of a mathematical model is discussed.

CONTENTS—PREFACE. TO THE STUDENT. EMPIRICAL FREQUENCY DISTRIBUTIONS: Summarization of data. Geometric representation of distributions. SETS AND SET OPERATIONS: Sets. Unions and intersections. Complements. Subsets. NOTATIONAL AND COMPUTATIONAL DEVICES: Variables and subscripts. The Σ notation. Standard notation and significant digits. Square roots. Functions. Set functions. Inequalities and absolute values. Graphs. AVERAGES: The arithmetic mean. Computation of the arithmetic mean from a frequency distribution. Other averages. Properties of the mean. MEASURES OF DISPERSION: The range. The standard deviation. The coding of data. Properties of the standard deviation. Least-squares line and the correlation coefficient. Review. PROBABILITY: Mathematical models. Theorems about probabilities. Uniform probability distributions and independent events. Dependent events and conditional probabilities. Permutations. Combinations. DISCRETE PROBABILITY DISTRIBUTIONS: Populations and samples. Binomial distributions. Random digits. Properties of discrete probability distributions. Expected values. Further properties of discrete distributions. The nature of probability. Review. APPLICATIONS OF DISCRETE DISTRIBUTIONS: Estimation and likelihood functions. Properties of estimates. Tests of hypotheses. More on tests of hypotheses. Confidence intervals. CONTINUOUS PROBABILITY DISTRIBUTIONS: Continuous variables. Probability density functions. Properties of continuous probability distributions. Rectangular distributions. NORMAL DISTRIBUTIONS: Properties of normal distributions. The distribution of a sample mean. Testing the hypothesis $\mu = \mu_0$. Estimating μ. Testing the hypothesis $\mu_X = \mu_Y$. CHI-SQUARE DISTRIBUTIONS: Properties of chi-square distributions. Testing the hypothesis $\sigma^2 = \sigma_0^2$. Estimation of σ^2. Testing goodness to fit. *F* DISTRIBUTIONS: Properties of *F* distributions. Testing the hypothesis $\sigma_X^2 = \sigma_Y^2$. Analysis of variance. STUDENT'S DISTRIBUTIONS. Properties of student's distributions. Testing $\mu = \mu_0$ and estimating μ with small samples. Testing $\mu_X = \mu_Y$ with small samples. BIVARIATE DISTRIBUTIONS: Marginal and conditional distributions—discrete case. Marginal and conditional distributions—continuous case. Bivariate normal distributions. APPENDIX: Table of square roots. Binomial distributions. Cumulative probabilities for binomial distributions. Random digits. Cumulative normal distribution. Chi-square distribution. Critical values of *F* with n_1 and n_2 degrees of freedom. Student's *t* distribution. INDEX.

Mathematical Statistics

ANDERSON AND BANCROFT—Statistical Theory in Research

By R. L. ANDERSON, University of North Carolina, and T. A. BANCROFT, Iowa State College.

399 *pp.*, 6 *x* 9, 24 *illus.* (1952).....$7.95*r*

A combined textbook in mathematical statistics and a reference book for the research worker. It shows how modern statistical theories can be applied most effectively to research programs in a wide variety of scientific fields.

CONTENTS—Part I. BASIC STATISTICAL THEORY. Introduction. Probability. Univariate Parent Population Distributions. Properties of Univariate Distribution Functions. Bivariate and Multivariate Distributions and Their Properties. Derived Sampling Distributions and Orthogonal Linear Functions. Derived Sampling Distributions: Normal Parent Population. Introduction to Point Estimation and Criteria of "Goodness." Principles of Point Estimation: Maximum Likelihood. Interval Estimation. Tests of Hypotheses. Special Uses of Chi-Square. Part II. ANALYSIS OF EXPERIMENTAL MODELS BY LEAST SQUARES. General Regression Model with *r* Fixed Variate. Computational Methods and Methods of Analysis for a General Regression Model. Curvilinear Regression: Orthogonal Polynomials. Least Squares for Experimental Design Models. The Analysis of Incomplete-blocks Designs. Factorial Experiments. The Analysis of Covariance. Variance Components: All Random Components Except the Mean. Analysis of Data with Both Random and Fixed Effects (Mixed Model). The Recovery of Interblock Information in Incomplete-blocks Designs. Other Topics Concerning Components of Variance: Summary of Needed Research. Appendix. Index.

BHARUCHA-REID—Elements of the Theory of Markov Processes and Their Applications

By A. T. BHARUCHA-REID, Assistant Professor of Mathematics, Wayne State University. *Series in Prob. & Statis.*

468 *pp.*, 6 *x* 9, 8 *illus.* (1960).....$12.50*r*

A graduate-level text and reference in probability, with numerous applications to several fields of science. The purpose is twofold: (1) To present a nonmeasure-theoretic introduction to the theory of Markov processes; and (2) To give a formal treatment of mathematical models based on this theory which have been employed in various applied fields. Many results obtained by Hungarian, Polish, and Russian workers are presented for the first time in English—and for the first time in textbook form.

CONTENTS—PART I. THEORY. Processes Discrete in Space and Time. Processes Discrete in Space and Continuous in Time. Processes Continuous in Space and Time. PART II. APPLICATIONS. Applications in Biology. Applications in Physics: Theory of Cascade Processes. Applications in Physics: Additional Applications. Applications in Astronomy and Astrophysics. Applications in Chemistry. Applications in Operations

Research: The Theory of Queues. APPENDIXES. Generating Functions. The Laplace and Mellin Transforms. Monte Carlo Methods in the Study of Stochastic Processes. NAME INDEX. SUBJECT INDEX.

GRAYBILL—An Introduction to Linear Statistical Models, Volume I

By FRANKLIN A. GRAYBILL, Colorado State University. *Series in Prob. & Statis.*

463 *pp.*, 6 *x* 9 (1961).....$12.95*c*

Seeks to fulfill two needs: (1) a theory textbook for seniors and first-year students in statistics, and (2) a reference book in the area of regression, correlation, least squares, experimental design, etc., for consulting statisticians with limited mathematical training. The book is primarily concerned with the mathematical treatment of statistical models in the nature of point estimation, interval estimation, hypothesis testing. Five important statistical models are discussed from the point of view of infinite model theory.

CONTENTS—Mathematical Concepts. Statistical Concepts. The Multivariate Normal Distribution. Distribution of Quadratic Forms. Linear Models. Model 1—The General Linear Hypothesis of Full Rank. Computing Techniques. Polynomial or Curvilinear Models. Model 2—Functional Relationships. Model 3—Regression Models. Model 4—Experimental Design Models. The Cross-classification or Factorial Model. Two-way Classification with Unequal Number in Subclasses. Incomplete Block Models. Some Additional Topics about Model 4. Model 5—Variance Components: Point Estimation. Model 5—Variance Components; Interval Estimation and Tests of Hypotheses. Mixed Models. INDEX.

MACHOL—Information and Decision Processes

Edited by ROBERT E. MACHOL, Conductron Corp., Ann Arbor, Michigan.

185 *pp.*, 6 *x* 9, *illus.* (1960).....$5.95*i*

Of the twelve contributing authors in this volume, nine are professional mathematicians, and the other three—an economist, a philosopher, and an electrical engineer—are also well known as competent mathematicians. This book is the result of a conference held at Purdue University in 1958 and 1959 to discuss the nature of information and the nature of decision. In most cases the papers are exact transcriptions of what the speakers said at the conferences.

CONTENTS—Computation in Decision Making, by George W. Brown. Motivation for an Approach to the Sequential Design of Experiments, by Herman Chernoff. Some Problems Concerning the Consistency of Mathematical Models, by J. L. Doob. Sequential Decisioning, by Merrill H. Flood. Lower Bounds for the Expected Sample Size of a Sequential Test, by Wassily Hoeffding. On Some Aspects of Models of Complex Behavioral Systems, by David Rosenblatt. An Aggregation Problem for Markov Chains, by M. Rosenblatt. Coding Theorems for a Discrete Source with a Fidelity Criterion, by Claude E. Shannon. Group Testing to Classify Efficiently All Units in a Binomial Sample, by Milton Sobel. Some Open Problems in the Foundations of Subjective Probability, by Patrick Suppes. Statistical Decision Theory in Engineering, by Lionel Weiss. On Channels in Which the Distribution of Error Is Known Only to the Receiver or Only to the Sender, by J. Wolfowitz. INDEX.

MOOD AND GRAYBILL—Introduction to the Theory of Statistics

By ALEXANDER M. MOOD, C-E-I-R, Inc., Beverly Hills, Calif.; and FRANKLIN A. GRAYBILL, Colorado State University. Second Edition. *Series in Prob. & Statis.*

438 *pp.*, 6 *x* 9, 69 *illus.* (1963).....$8.95*c*

Contemporized and largely rewritten, the present edition of this widely accepted work provides a treatment of basic statistical theory which includes probability, distribution theory, sampling, point estimation, interval estimation, testing hypotheses, regression, analysis of variance, sequential analysis, and nonparametric methods. A fundamental theory for the whole statistical field, point estimation and testing hypotheses is set in the framework of decision theory. Probability is approached from the modern point of view.

CONTENTS—Introduction. Probability. Discrete Random Variables. Continuous Random Variables. Expected Values and Moments. Special Continuous Distributions. Sampling. Point Estimation. The Multivariate Normal Distribution. Sampling Distributions. Interval Estimation. Tests of Hypotheses. Regression and Linear Hypotheses. Experimental Design Models. Sequential Tests of Hypotheses. Nonparametric Methods.

SAATY—Elements of Queueing Theory

With Applications

By THOMAS L. SAATY, Science and Technology Bureau.

440 *pp.*, 6 *x* 9, 6 *illus.* (1961).....$11.50*c*

The author of *Mathematical Methods of Operations Research* presents in this work a variety of queueing ramifications, methods of treatment, and in the general context makes clear that the field is in a state of rapid development in its many interesting and challenging problems. Most of the fundamental ideas of queues are discussed and developed, as are many applications, in addition to a discussion of both Poisson and non-Poisson queues with different queueing disciplines. About 100 problems and exercises help the reader apply his learning.

CONTENTS—STRUCTURE, TECHNIQUE, AND BASIC THEORY. A Description of Queens. Some Queueing Models. Probability, Markoff Chains and Processes. Ergodic Properties of Queues. POISSON QUEUES. The Birth-Death Process in Queueing Theory. The Case of Small Barriers. NON-POISSON QUEUES. Special Non-Poisson Cases. Bulk Queues. Poisson Input, Arbitrary Service Distribution, Distributions of the Number in the System, the Busy Period, and the Number Served. Poisson and Arbitrary Input, Arbitrary Service, the Waiting Time for Single and Multiple Channels. General Independent Input, Exponential or Erlangian Service. QUEUEING RAMIFICATIONS, APPLICATIONS, AND RENEWAL THEORY. Other Queue Disciplines. Queues in Tandem or Series. Interesting Queueing Phenomena. Applications. Basic Renewal Theory. BIBLIOGRAPHY. INDEX.

PRACTICAL HANDBOOK LIBRARY IN MATHEMATICS AND STATISTICS $9.95*r*

Burington—Handbook of Mathematical Tables and Formulas

Burington and May—Handbook of Probability and Statistics with Tables

Probability

BURINGTON AND MAY—Handbook of Probability and Statistics with Tables

By RICHARD S. BURINGTON, Bureau of Ordnance, Navy Department, and DONALD C. MAY.

332 *pp.*, 5½ *x* 8, 50 *illus.* (1953)..$6.00*hb*

Convenient summary of theory, working rules and tabular material useful in practical problems in probability and statistics. Brings together information not otherwise readily available in simple form. Those without detailed statistical training will find this volume a sufficient guide for the more commonly met statistical aspects of their work. Those who have statistical training will find here the material almost often needed. The first part of the book includes a summary of the most important formulas and definitions of elementary statistics and probability theory. The second part consists of tables of distributions and other quantities of frequent use in statistical work.

MUNROE—The Theory of Probability
By M. E. MUNROE, University of Illinois.
210 *pp.*, 6 *x* 9, 24 *illus.* (1951).....$6.75*c*
A text of moderate size and difficulty for college courses taken by mathematics and statistics majors. The aim of the book is to present in terms of integrals studied in first-year calculus an outline of the mathematical framework and a number of the more important results of modern investigations in probability theory. The usual elementary manipulations are covered, but the emphasis is on the concept of a stochastic variable and the use of this concept as a framework for the statement and proof of the probability limit theorems.
CONTENTS—Preface. Permutations and Combinations. Mathematical Probability. Joint Distributions. Repeated Trials and Alternative Events. More about Stochastic Variables. Moments. Special Topics in Calculus. Limit Theorems. The Central Limit Theorem. The Poisson Distribution. The Laws of Large Numbers.

USPENSKY—Introduction to Mathematical Probability
By J. V. USPENSKY.
411 *pp.*, 6 *x* 9 (1937)..*Cloth Edition* $8.95*c*
*McG-H Paperbacks Ed.**
Written for persons who desire a fundamental knowledge of the methods and results of the mathematical theory of probability. Presents a simple yet rigorous exposition, of which about one-half deals with elementary matters easily accessible to undergraduate students while the other half is devoted to later and more advanced research.
CONTENTS—Introduction. Computation of Probability by Direct Enumeration of Cases. Theorems of Total and Compound Probability. Repeated Trials. Probabilities of Hypotheses and Bayes' Theorem. Use of Difference Equations in Solving Problems of Probability. Bernoulli's Theorem. Approximate Evaluation of Probabilities in Bernoullian Case. Further Considerations on Games of Chance. Mathematical Expectation. The Law of Large Numbers. Application of the Law of Large Numbers. Probabilities in Continuum. The General Concept of Distribution. Fundamental Limit Theorem. Normal Distribution in Two Dimensions. Limit Theorem for Sums of Independent Vectors. Origin of Normal Correlation. Distribution of Certain Functions of Normally Distributed Variables. Appendex I. Euler's Summation Formula—Stirling's Formula—Some Definite Integrals. II. Method of Moments and Its Applications. III. On a Gaussian Problem.
* *Available only through your local bookstore.*

WADSWORTH AND BRYAN—Introduction to Probability and Random Variables
By GEORGE A. WADSWORTH, Massachusetts Institute of Technology and JOSEPH G. BRYAN, American Machine and Foundry Company, Stamford. *Series in Prob. & Statis.*
292 *pp.*, 6 *x* 9, 90 *illus.* (1960).....$8.95*c*
Designed primarily for a short undergraduate course with a prerequisite of elementary calculus, this book offers an introduction to mathematical theory and practical applications of probability. The book is unusual in its extensive, systematic treatment of random variables, at a level within the grasp of the college undergraduate. This approach affords a means of effectively unifying the subjects of probability, mathematical models depending upon probability concepts, and mathematical statistics. By this means, the authors were able to indicate the use of these methods in the solution of engineering, scientific and industrial problems.
CONTENTS—Preface. Preliminary Mathematics. Probability Concepts. Discrete Random Variables. Continuous Random Variables. Joint Distributions. Derived Distributions. Mathematical Expectation. Some Statistical Uses of Probability. Index.

WEISS—Statistical Decision Theory
By LIONEL WEISS, Cornell University. *Series in Prob. & Statis.*
208 *pp.*, 6 *x* 9, *illus.* (1961).....$7.50*c*
This is the first book to cover the subject at an intermediate mathematical level. The first four chapters develop the necessary probability theory, for those with no previous training in this subject. The next four chapters cover statistical decision theory, including linear programming as a computational tool and problems involving making a sequence of decisions over time. The final chapter develops the standard techniques of conventional theory as special cases of statistical decision theory. For each topic, examples are worked out completely, and exercises are included.
CONTENTS—Elementary Probability Theory. Chance Variables with a Finite Number of Possible Values. Chance Variables with an Infinite Number of Possible Values. Some Important Expected Values and Distributions. Statistical Decision Problems. Linear Programming as a Computational Tool. Problems Involving a Sequence of Decisions Over Time. The Empirical Cumulative Distribution Function. Conventional Statistical Theory. EXERCISES. TABLES. INDEX.

Applied and General Statistics

BRYANT—Statistical Analysis
By EDWARD C. BRYANT, University of Wyoming.
303 *pp.*, 6 *x* 9, *illus.* (1960).....$6.95*c*
An ideal text for the undergraduate course in statistics, particularly in departments of business administration. The author presents the subject matter of statistical methods with emphasis on managerial decision making. An effort has been made to bridge the gap between the predominantly descriptive statistics textbook and the highly mathematical book in decision making. The present work represents a radical departure from the customary textbook used in Business Statistics courses, in that it places primary emphasis on statistical inference with application to managerial decisions, rather than on statistical description.
CONTENTS—Introduction. Probability. Statistical Inference I. Statistical Description. Statistical Inference II. Analysis of Frequencies. Simple Linear Regression and Correlation. Analysis of Variance and Industrial Experimentation. Analysis of Time Series. Multiple Regression. Sampling. Statistical Quality Control. Operating-level Problems.

BLALOCK—Social Statistics
By HUBERT M. BLALOCK, Assistant Professor of Sociology, University of Michigan. *Series in Sociol.*
465 *pp.*, 6 *x* 9, *illus.* (1960).....$7.95*c*
Primarily designed for a one- or two-semester course for advanced undergraduate or graduate students in sociology, this text stresses "why" to provide greater understanding of the fundamental ideas of statistical inference.
CONTENTS—INTRODUCTION. Introduction: Purposes and Limitations of Statistics. Theory, Measurement, and Mathematics. DESCRIPTIVE STATISTICS. Nominal Scales: Proportions, Percentages, and Ratio. Interval Scales: Frequency Distributions and Graphic Presentation. Interval Scales: Measures of Central Tendency. Interval Scales: Measures of Dispersion. The Normal Distribution. INDUCTIVE STATISTICS. Introduction to Inductive Statistics. Probability. Testing Hypotheses: The Binomial Distribution. Single-sample Tests: Difference of Means and Proportions. Ordinal Scales: Two-sample Nonparametric Tests. Nominal Scales: Contingency Problems. Analysis of Variance. Correlation and Regression. Correlation and Regression (continued). Multiple and Partial Correlation. Analysis of Covariance. Factor Analysis and Other Multivariate Techniques. Sampling Conclusions. Appendix.

DORNBUSCH AND SCHMID—A Primer of Social Statistics

By SANFORD M. DORNBUSCH, University of Washington and CALVIN F. SCHMID, University of Washington. *Series in Social.*

251 *pp.*, 6 *x* 9 (1955).....$5.95*c*

Written with simplicity and clarity, this up-to-date coverage of the basic matter of social statistics presumes no mathematical knowledge beyond arithmetic. Instead, the reader is presented with the appropriate mathematical concepts and formulas when it becomes necessary, and in such a manner as to make their significance and utility immediately apparent.

CONTENTS—Some Advice for the Student. Tabular Presentation. Graphic Presentation. Basic Rules of Summation. Measures of Central Value. Measures of Variability. Ratios, Proportions, and Rates. Computations with Grouped Data. Universe and Sample. Sampling Distributions. Statistical Inference. The Binomial Distribution. The Normal Distribution. Sampling Distribution of Proportions. Sampling Distribution of Means. Prediction and Regression. Linear Correlation. Contingency. A Taste of Things to Come. And a Few Grains of Salt. Index.

DUBOIS—Essential Methods in Business Statistics

By EDWARD N. DUBOIS, Saint Louis Univ. *In Press*

This book is designed for the traditional course offered in schools of business and departments of economics. The author is a dedicated teacher and the book reflects his desire to make the subject meaningful. Because the basic course is not the place to make a contribution to the statistical literature, the author has not attempted to do more than present a lucid and succinct presentation of statistics as it applies to business and economics. This book will be most useful at the Freshman-Sophomore level. In addition, it is appropriate for junior colleges and city colleges as well as schools of secretarial administration and the many people in business who want a readable treatment of the basics involved in statistics.

CONTENTS—Why Statistics? An Introduction. Obtaining Numerical Data. The Art of Presenting Statistical Data. Organizing Quantitative Data. Measures of Location for Quantitative Data. Measures of Variability for Quantitative Data. The Nature of Samples. Sampling Distributions. Making Estimates from Sample Data. Testing Hypotheses With Sample Data. Selected Additional Topics in Sampling. Regression and Correlation Analysis. The Analysis of Data Over Time. Index Numbers. Why Statistics? A Review.

FERBER—Statistical Techniques in Market Research

By ROBERT FERBER, Consultant in Market Research, New York City.

542 *pp.*, 6 *x* 9, 34 *illus.* (1949).....$8.95*r*
*McG-H Paperbacks Ed.**

A manual for sales executives, research directors, and statisticians, describing the use of statistical methods in market analysis. A simple, non-technical style is maintained, and each technique discussed is illustrated with practical applications to market research.

CONTENTS—Part One: Introductory Concepts. Statistics and Market Research. Elementary Concepts. Part Two: An Outline of Sampling Theory. The Sampling Operation—Means and Objectives. The Theory of Sampling Techniques. The Testing of Hypotheses. Part Three: Sampling Theory in Application. Estimating Population Characteristics and Testing for Significance. Sequential Analysis: A New Tool for Commercial Research. Problems of Sample Precision. Problems of Sample Bias. Part Four: Multivariate and Correlation Methods. Other Statistical Significance Tests in Marketing Problems. Simple Correlation Techniques. Multiple Correlation Techniques. Sampling Statistics in Correlation Analysis. Appendixes: A. Bibliography. B. Miscellaneous Statistical Procedures. C. Some Mathematical Derivations. D. A List of the Statistical Formulas Discussed in This Book: Their Purpose and General Applicability. Statistical Tables. Index.

** McG-H Paperbacks Ed. attainable under the title of* Market Research. *Available only through your local bookstore.*

FERGUSON—Statistical Analysis in Psychology and Education

By GEORGE A. FERGUSON, Professor of Psychology, McGill University. *Series in Psych.*

347 *pp.*, 6 *x* 9 (1959).....$7.50*c*

Provides the technology necessary for the statistical treatment of most sets of experimental data encountered in practice. The book proceeds from a discussion of the most elementary statistical ideas and techniques to an exposition of methods of correlation, including rank order methods, sampling statistics, basic nonparametric statistics, simple transformations, errors of measurement, the analysis of variance, and multivariate problems. Although the book is intended for the nonmathematical reader, every attempt is made to communicate an understanding of the nature of statistical ideas.

CONTENTS—Preface. Basic Ideas in Statistics. Frequency Distributions and Their Graphic Representation. Averages. Measures of Variation. Skewness, and Kurtosis. Probability and the Binomial Distribution. The Normal Curve. Correlation. Prediction in Relation to Correlation. Essential Ideas of Sampling. Tests of Significance. Chi Square. Rank Correlation Methods. Other Varieties of Correlation. Transformations: Their Nature and Purpose. Analysis of Variance: One-way Classification. Analysis of Variance: Two-way Classification. Selected Nonparametric Tests. Errors of Measurement. Partial and Multiple Correlation. Appendix. Glossary of Symbols. References. Index.

GUILFORD—Fundamental Statistics in Psychology and Education

By J. P. GUILFORD, University of Southern California. *Series in Psych.* Third Edition.

584 *pp.*, 6 *x* 9 (1956).....$7.95*c*
Elementary Statistical Exercises (Guilford-Michael) (1956).....$2.50*c*
Intermediate Statistical Exercises (Guilford-Michael).....$2.95*c*

The third edition of this well-known college text reflects the changing emphases in the needs for statistical methods of different kinds, and the rapid development of new, useful methods in the past five years. Exercises have been revised throughout, with answers now provided for all computational problems in the exercises. A major change in this edition is the addition of new material in the area of hypothesis testing and statistical inference. *Workbooks* (Advanced and Elementary) are available.

CONTENTS—Introduction for Students. Counting and Measuring. Frequency Distributions. Measures of Central Value. Measures of Variability. Cumulative Distributions and Norms. The Normal Distribution Curve. Correlation. The Reliability and Significance of Statistics. Testing Hypotheses. Chi-square and Other Statistical Tests. Introduction to Analysis of Variance. Special Correlation Methods and Problems. Prediction of Attributes. Prediction of Measurements. Multiple Prediction. Reliability of Measurements. Validity of Measurements. Test Scales and Norms. Appendix A. Some Selected Mathematical Proofs and Derivations. B. Tables. Index.

PADEN AND LINDQUIST—Statistics for Economics and Business

By DONALD W. PADEN, University of Illinois, and E. F. LINDQUIST, State University of Iowa. Second Edition.

305 *pp.*, 6 *x* 9, 63 *illus.* (1956).....$5.95*c*
Student Workbook to accompany Statistics for Economics and Business. Second Edition.
156 *pp.* (1956).....$2.95*c*

An elementary college text for students of economics or business administration. The aim of the book is to help the student to a basic understanding of the more important statistical techniques required for intelligent reading, research, or activity in the business world. A reasonably brief, non-technical interpretation of the common statistical tools currently in use in business and economics is provided. Computation and mathematical manipulation are held to a minimum. The text and workbook are prepared to be used together to encourage the student to formulate for himself the uses, limitations, and important properties of each statistical technique considered.

CONTENTS—Introduction. Elementary Statistical Concepts. Index Numbers. The Frequency Distribution. Graphical Representation of Frequency Distributions. Measures of Central Tendency. Measures of Variability. The Normal Curve of Distribution. Sampling Error Theory. Time Series and Their Graphical Representation. Analysis of Seasonal Variation. Secular Trend and the Business Cycle. Correlation Theory. Appendixes. Index.

RIGGLEMAN AND FRISBEE—Business Statistics

By JOHN R. RIGGLEMAN and IRA N. FRISBEE, University of California, Los Angeles. Third Edition.

818 *pp.*, 6 x 9, 266 *illus.* (1951) $7.95*c*

Problems in Business Statistics (Riggleman). 95 *pp.*, 6 x 9 (1952) $3.50*c*

An introductory college text in business statistics emphasizing the practical application of statistics to business problems. An introduction to the technique of statistical methods is followed by a discussion of specialized fields of statistical practice.

CONTENTS—Statistics in Business. Planning and Organizing Statistical Work. Collection of Data. Tabulation and Tables. Graphic Methods. Statistical Distributions. Averages. Dispersion and Skewness. The Normal Curve, Probable Error, and Sampling. Applied Sampling. Analysis of Associated Characteristics—Correlation. Index Numbers. Time Series in Business. Time Series—Basic Trends. Time Series Seasonal Variation. Time Series—Business Cycles and Erratic Movements. Business Forecasting. Budgeting. Statistical Quality Control. Population and Purchasing Power. Production and Labor Statistics. Marketing Analysis. Real Estate Analysis. Investment Analysis. Statistics in Banking. Executive Control and Management Statistics. Schedule and Questionnaire Forms. Mechanical Aids in Statistical Work. Appendixes. Index.

SCHLAIFER—Introduction to Statistics for Business Decisions

By ROBERT SCHLAIFER, Harvard University.

382 *pp.*, 6 x 9, *illus.* (1961) $7.95*c*

This is a shorter and simplified version of the author's brilliant pioneering work *Probability and Statistics for Business Decisions*. The present book is devoted entirely to statistics, is largely nonmathematical, and makes the author's approach available at the general undergraduate level. It sets forth as simply as possible the basic principles of the classical decision theory of Neyman and Pearson. It also shows, again as simply as possible, how this classical theory is completed rather than contradicted by more recent developments based on the concepts of utility and personal probability.

CONTENTS—INTRODUCTION. THE PROBLEM OF DECISION MAKING UNDER UNCERTAINTY. The Meaning of Probability. Expected Value and the Cost of Uncertainty. Random Variables and Probability Distributions. PART ONE. THE USE OF PROBABILITIES BASED DIRECTLY ON EXPERIENCE. Opportunity Loss and the Cost of Uncertainty. Incremental Analysis. Measures of Location: Fractiles and Expectations. Linear Profits and Costs. Assessment of Probabilities by Smoothing Historical Frequencies. PART TWO. ECONOMICAL SAMPLING. Conditional, Joint, and Marginal Probability. The Binomial Distribution. Statistical Decision Rules and Their Error Characteristics. Evaluation of Statistical Decision Rules in Terms of Expected Loss. Revision of Probabilities in the Light of New Information. Suspension of Judgment and Summarization of Information. PART THREE. INTRODUCTION TO THE NORMAL DISTRIBUTION. Measures of Variability: Variance and Standard Deviation. The Normal Distribution and the Normal Approximation to the Binomial Distribution. PART FOUR. SAMPLING OF MEASURED VALUES. The Central Limit Theorem and Large-sample Theory. Statistical Decision Rules with Normal Sampling. Expected Loss with Normal Sampling. Normal Prior Distributions; Statistical Significance and Confidence Intervals. The Economics of Two-action Problems with Linear Profit or Cost and Normal Distribution. Optimal Sample Size in Two-action Problems with Linear Profits or Costs and Normal Distributions. TABLES. Cumulative Binomial Distribution. Unit Normal Probability Distribution. Cumulative Unit Normal Distribution. Unit Normal Loss Integral. Random Digits. Square Roots. Cube Roots. Chart 1. Optimal Sample Size. INDEX OF SYMBOLS. SUBJECT INDEX.

SCHLAIFER—Probability and Statistics for Business Decisions

An Introduction to Managerial Economics Under Uncertainty

By ROBERT SCHLAIFER, Graduate School of Business Administration, Harvard University. Second Printing.

732 *pp.*, 6 x 9, 153 *illus.* (1959) $12.50*c*

Student's Manual $2.75*c*

CONTENTS—THE PROBLEM OF DECISION UNDER UNCERTAINTY. The Meaning of Probability. Expected Value and Utility. Random Variables and Probability Distributions. THE USE OF PROBABILITIES BASED DIRECTLY ON EXPERIENCE. The Simplest Problems of Inventory Control: Incremental Analysis. Measures of Location: Fractiles and Expectations. Linear Profits and Costs. Assessment of Probabilities by Smoothing Historical Frequencies. Opportunity Loss and the Cost of Uncertainty. Lumpiness Losses; Scrap Allowances. SIMPLE RANDOM PROCESSES AND DERIVED PROBABILITIES. Conditional and Joint Probability. The Bernoulli Process and the Binomial Distribution. The Bernoulli Process: the Pascal Distribution. Conditional Models and Marginal Probability. The Poisson Process, the Poisson Distribution. The Poisson Process: the Gamma Distribution. Min-Max Inventory Control. Measures of Dispersion: the Variance and the Standard Deviation. The Normal Approximation to Distributions of Sums of Random Variables. The Normal Approximation to Empirical Distributions. Waiting Lines. The Monte Carlo Method. THE USE OF INFORMATION OBTAINED BY SAMPLING. Revision of Probabilities in the Light of New Information. Two-action Problems with Linear Profits or Costs. Samples from Finite Populations; the Hypergeometric Distribution. Interdependent Decision Problems: Finite vs. Infinite Populations. Samples from Many-valued Populations; Sufficient Statistics and the Sample Mean. Sampling from "Normal" Populations with Known Variance. Samples from "Normal" Populations with Known Mean. Nonlinear Parameters: Posterior Distributions of Variance. Samples from "Normal" Populations with Both Parameters Unknown. Comparison of Two Populations with Binomial Parameters. Large-sample Approximations. Decisions Based on Small Samples: Introduction to the Theory. Normal Prior Distributions. Bias in Measurements and Biased Selection. Comparison of Two Unknown Quantities: the Importance of Sample Design. THE VALUE OF ADDITIONAL INFORMATION. Evaluation of a Decision to Sample and Then Act; Preposterior Analysis. Two-action Problems with Linear Costs: Expected Loss and the Prior Distribution of the Posterior Mean. Two-action Problems with Linear Costs: Optimal Sample Size. Interdependent Two-action Problems under a Stationary Distribution. Many-action Problems with Proportional Losses. General-purpose Estimation. Sequential Decision Procedures. STATISTICAL RULES OF THUMB. APPENDIXES. Conditional Prior Distributions. Reference Tables. Reference Charts. Glossary. Index.

SIEGEL—Nonparametric Statistics

For the Behavioral Sciences

By SIDNEY SIEGEL, Pennsylvania State University.

330 *pp.*, 6 x 9 (1956) $6.95*c*

The first book-length treatment on nonparametric, or distribution-free, statistics. It gives comprehensive coverage to the nonparametric statistical tests and measures of correlation, demonstrating their usefulness in research in the behavioral sciences. It is written for the

reader with no special training in mathematics, and is organized to serve as a reference work as well as a text.

CONTENTS—Introduction. The Use of Statistical Tests in Research. Choosing an Appropriate Statistical Test. The One-sample Case. The Case of Two Related Samples. The Case of Two Independent Samples. The Case of k Related Samples. The Case of k Independent Samples. Measures of Correlation and Their Tests of Significance. References. Appendix. List of Tables.

SPEAR—Charting Statistics

By MARY ELEANOR SPEAR, United States Department of Labor and The American University, Washington, D.C.

253 *pp.*, 6 *x* 9, 176 *illus.* (1952).....$5.75*r*

A treatment of the practical graphic presentation of statistical data, depicting not only types of charts and their appropriate use, but also subject matter of economic interest. It is intended to help persons interested in putting a message in visual form before either a specialized audience or the general public. The book describes the proper use and methods of designing basic charts for the portrayal of economic and statistical data. It develops an idea for the simple poster chart through to the large mechanical exhibit. It shows how to break down data to emphasize a particular fact. The book also covers many basic techniques of statistical analysis, so that the draftsman can use greater ingenuity in the graphic presentation of the data.

CONTENTS—GRAPHIC PRESENTATION. PLANNING THE CHART. LINE CHARTS. THE SURFACE CHART. COLUMN CHARTS. THE BAR CHART. THE MAP CHART. OTHER TYPES AND THEIR USE. EXHIBITS. DUPLICATING, COLOR, TELEVISION. Index.

TUTTLE—Elementary Business and Economic Statistics

By ALVA M. TUTTLE, The Ohio State University.

625 *pp.*, 6 *x* 9, 118 *illus.* (1957).....$8.50*c*
Laboratory Manual.....$3.50*c*

This text emphasizes techniques rather than an understanding of statistical inference and is designed for the course usually required of all business students in the junior or sophomore year. The author gives special attention to covering the essential material in an understandable way. He introduces the arithmetic and algebra gradually, step by step; defines all symbols and technical terms when they are introduced; and provides many examples, worked out in great detail. The treatment of such extremely important techniques as statistical charts and tables is exceptionally thorough. The nine appendixes contain hundreds of useful references and sources of statistical data in the field of business and economics.

CONTENTS—Preface. The Meaning of Statistics. The Classification of Statistical Data. The Sources and Collection of Statistical Data. Tabular Presentation—Tabulation—The Statistical Table. Ratios, Percentages, and the Rounding of Numbers. Graphic Presentation: Bar Charts. Graphic Presentation: Line Charts. Graphic Presentation: Miscellaneous Charts. The Frequency Distribution: Basic Concepts, Grouping, and Graphic Presentation. The Frequency Distribution: Averages, or Measures of Central Value. The Frequency Distribution: Dispersion and Skewness. Elementary Sampling and Statistical Inference. Index Numbers. Simple Correlation. Time Series Analysis: Basic Concepts and Preliminary Adjustment of Data. Time Series Analysis: The Secular Trend. Time Series Analysis: The Seasonal Fluctuation. Cycles and Forecasting. Appendixes. Index.

VOLK—Applied Statistics for Engineers

By WILLIAM VOLK, Hydrocarbon Research, Inc. *Series in Chem. Engg.*

349 *pp.*, 6 *x* 9, 28 *illus.* (1958).....$12.00*i*

Gives practicing chemical and processing engineers enough background and examples of statistical problems to enable them to apply statistical analysis to engineering data. Emphasizing engineering applications rather than theory, and providing a number of illustrative examples, it deals with the treatment of engineering data for correlation, precision, and analysis of experimental factors. A review of probability theory and frequency distribution is included.

YOUNG—Statistical Treatment of Experimental Data

By HUGH D. YOUNG, Carnegie Institute of Technology.

192 *pp.*, 5⅜ *x* 8, 17 *illus.* (1962)....$4.95*c*
*McG-H Paperbacks Ed.**

In this consise introductory work the author makes available statistical methods for treating experimental data, readily comprehensible to the reader with no mathematical training beyond a year of elementary calculus. These methods constitute an important tool for the engineer and scientist, and the author consequently emphasizes useful techniques, showing the physical basis upon which the statistical theory is developed. The book is self contained. In virtually every case, mathematical results and formulas are derived. Varied problems at the ends of chapters provide exercise in applying the methods developed.

CONTENTS—INTRODUCTION. Kinds of Errors. Propagation of Errors. The Mean and Dispersion. PROBABILITY. The Meaning of Probability. Permutations and Combinations. PROBABILITY DISTRIBUTIONS. The Meaning of a Probability Distribution. Binomial Distribution. Poisson Distribution. Gauss Distribution, or Normal Error Function. Rejection of Data. Goodness of Fit. FURTHER DEVELOPMENTS. Standard Deviation of the Mean. Propagation of Errors. Method of Least Squares. Least Squares with Several Unknowns. Correlations. APPENDIX. Summary of Formulas. Evaluation of η and σ for Binomial Distribution. Derivation of Gauss Distribution. Evaluation of Normal Error Integral. TABLES. BIBLIOGRAPHY. ANSWERS TO PROBLEMS. INDEX.

** Available only through your local bookstore.*

Statistics and Quality Control

BURR—Engineering Statistics and Quality Control

By IRVING W. BURR, Purdue University.

442 *pp.*, 6 *x* 9, 77 *illus.* (1953).....$8.95*c*

A textbook study, written for students of engineering and physical science, presenting a sound, clear, unified, and practical approach to a working knowledge of statistics. It is also valuable to those in industry. Emphasis throughout the book is on statistics used directly by industry, and methods presented are applicable to engineering research. Treatment is balanced between theory and practice. Enough theoretical material is included to give a sound background, and many random sampling experiments are given, the results of which are shown, to aid the student who cannot easily follow the derivations.

CONTENTS—Introduction. The Frequency Distribution—A Tool and a Concept. A Few Fundamental Statistical Measures. The Normal Curve. Control Charts in General. Control Charts for Measurements. Background of Control Charts for Measurements. Probability. Control Charts for Attributes. Miscellaneous Topics in Control Charts. Putting Control Charts to Work. Acceptance Sampling for Attributes. Some Standard Plans for Attributes. Some Plans for Acceptance Sampling by Measurements. Single Sampling of Measurements. Putting Statistical Methods to Work. Appendixes. Index.

GRANT—Statistical Quality Control, 3rd Ed.
By EUGENE L. GRANT, Stanford Univ.
In Press

Explains simple but powerful statistical techniques that can be used to reduce costs, improve quality of products, and encourage better coordination between design production and inspection. Contains Shewhart control charts, new international standard for acceptance sampling by attributes, and actual cases from industry.

CONTENTS—List of Examples. What Will Statistical Quality Control Do? Shewhart Control Charts. Acceptance Sampling. Some Related Topics. Appendices. Index.

Tables

WAUGH—Statistical Tables and Problems
By A. E. WAUGH. Third Edition.
246 *pp.*, 6 *x* 9 (1952).....$3.95*c*

The title of this revision has been changed since the book is of real value to people who may want the tables for reference or both the tables and problems for use with some book other than the author's text. In this connection, page references to the basic text have been eliminated. Many new tables have been added in this edition, including one that has been computed especially for the manual and hence appears here for the first time. As in the text, the problems cut across various fields of interest.

CONTENTS—Statistical Tables. Statistical Formulas. Suggested Exercises. Graphic Presentation. Significant Figures. The Frequency Distribution. Measures of Central Tendency. Measures of Dispersion. Probability and the Normal Curve. Measures of Reliability. Historical Data. Simple Linear Correlation. Multiple and Curvilinear Correlation.

Psychology

McGRAW-HILL SERIES IN PSYCHOLOGY

(Series in Psych.)

Harry F. Harlow, Consulting Editor
Professor of Psychology, University of Wisconsin

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Warren and Akert—Frontal Granular Cortex and Behavior
Waters, Rethlingshafer, and Caldwell—Principles of Comparative Psychology
Winer—Statistical Principles in Experimental Design
Zubek and Solberg—Human Development

General, Introductory, and Applied

ANASTASI—Fields of Applied Psychology
By ANNE ANASTASI, Fordham Univ.
In Press

Presents an integrated picture of the professional activities of psychologists in business and industry, advertising and marketing, education, clinical practice, law, government, and the military services. Methodology is emphasized to help the reader gain the skills necessary for a critical evaluation of psychological facts, interpretations, and practices.

BEACH AND CLARK—Psychology in Business
By LESLIE BEACH, Whitworth College, Spokane, Washington, and ELON L. CLARK, General Motors Institute, Flint, Michigan.
304 *pp.*, 5⅜ *x* 8 (1959).....$5.75†

A down-to-earth, brief presentation of the basic concepts of general psychology with applications to business, particularly sales personnel. Avoids overly technical language and aims to help the reader gain an understanding of psychological principles as they apply to human problems that continually arise in business. Includes questions, chapter summaries, and a glossary.

† Textbook edition available at educational list price.

CONTENTS—The Science of Psychology. Normal Development of the Individual. Individual Differences. Intelligence. Learning and Remembering. Emotions and Emotional Behavior. Motivation and Frustration. Perception. Attitudes and Opinions. Self-understanding and Self-development. Face to Face Contacts. Employee Relations in Business and Industry. Relationships with Customers. Psychology in Advertising and Selling. Community and Home Relations.

BEACH, HEBB, MORGAN, AND NISSEN—The Neuropsychology of Lashley

Selected Papers of K. S. Lashley

By FRANK A. BEACH, Department of Psychology, University of California; DONALD O. HEBB, Department of Psychology, McGill University, CLIFFORD T. MORGAN, Department of Psychology, The University of California and HENRY W. NISSEN, deceased.

564 *pp.*, 5⅜ *x* 8⅛, 106 *illus.* (1960) $11.50*i*

This book, compiled by four of Lashley's former colleagues, contains the most significant work of the man who was an acknowledged authority in the field of experimental physiology and neuropsychology. It includes a number of articles highly important for the solution of current problems that should be available for any student of behavior. The thirty-one articles—chronologically arranged—represent four dominant themes characterizing the four different phases of Lashley's career as a professional investigator: Laying the Foundations; The Grand Attack on Connectionism; Experimental Studies of Sensory Representation; General Theory. The articles presented here reflect the astonishing breadth in Lashley's experimental and theoretical analysis, including normal human learning, perception, thinking, motor equivalents, instinct, motivation, emotion and perception in animals, as well as his brain injury studies.

DYAL—Readings in Psychology

Understanding Human Behavior

By JAMES A. DYAL, Texas Christian University.

457 *pp.*, 5⅜ *x* 8, 32 *illus.* (1962)

Cloth Edition $4.95*c*

Soft-cover Edition $3.95*c*

This readings book is specifically designed to supplement and extend the approach to *PSYCHOLOGY: Understanding Human Behavior.* However, since it includes all the basic content areas covered in most introductory psychology courses, it will supplement any beginning text. The approach is dynamic, organismic, and bisocial. It emphasizes research reports and psychological essays which orient the student toward understanding the on-going behavior of the organism.

CONTENTS—Psychology: Past, Present, and Future. The Development of Behavior. The Motivation of Behavior. Behavior and Emotion. Frustration and Conflict. Perception and Behavior. The Learning Process. Thinking, Reasoning, and Problem Solving. Intelligence. Social Processes: Attitudes and Roles. The Self and Behavior. Personality. Behavior Disorders.

ELLIS—Handbook of Mental Deficiency

Edited by NORMAN R. ELLIS, George Peabody College for Teachers. *Series in Psych.*

830 *pp.*, 6 *x* 9, 96 *illus.* (1963).....$14.50*r*

A definitive presentation of all the significant theoretical approaches to the study of mental deficiency. Its purpose is to assess the status of behavioral research and theory in the field. The material is divided into two parts: Part I is devoted to the exposition and evaluation of theories of defectives' behavior. Part II summarizes the literature pertaining to the area of mental deficiency and evaluates the available data, pointing out the relevant aspects as well as the shortcomings.

FARBER AND WILSON—Control of the Mind

Man and Civilization

By SEYMOUR M. FARBER, and ROGER H. L. WILSON, both of University of California School of Medicine, San Francisco Medical Center.

356 *pp.*, 5⅜ *x* 8, 15 *illus.* (1961)

Cloth Edition $6.50*t*

*McG-H Paperbacks Ed.**

A symposium consisting of 26 eminent men in various areas was held in San Francisco under the auspices of the San Francisco Medical Center of the University of California and Continuing Education in Medicine and the Health Sciences. These men combine their knowledge, training and experience in an investigation of the factors in the control of the mind and how they interact. This text is that symposium and it presents the ideas of outstanding men in the fields of science, psychology, sociology, history, religion, mass communication and political science. Thus the multidisciplinary approach ranges from the medical sciences to the creative arts.

CONTENTS—Preface. Introduction. THE MIND AND ITS INTEGRATION: Chairman, *Alexander Simon.* The Physiological Basis of the Mind: *Wilder Penfield.* Biochemical Aspects of Brain Activity: *Holgar Hydén.* The Role of Experience: *Donald O. Hebb.* The Physical Background for Mental Processes: Panel Discussion. Human Potentialities: *Aldous Huxley.* THE INFLUENCE OF DRUGS ON THE INDIVIDUAL: Chairman, *Robert M. Featherstone.* Chemical Boundaries of Psychopharmacology: *Seymour S. Kety.* The Individual Response to Drugs: *James G. Miller.* Drugs and Control of the Mind: *Jonathan O. Cole.* Horizons of Psychopharmacology: Panel Discussion. THE MIND AND SOCIETY: Chairman, *Glenn T. Seaborg.* The Experience of Recent History: *H. Stuart Hughes.* Human Motivations in an Affluent Society: *C. A. Mace.* The Influence of Religion on Society and the Individual: *Martin C. D'Arcy, S. J.* Some Aspects of the Creative Process: *Arthur Koestler.* Individual and Group Decision: Panel Discussion. THE IMPACT OF THE TECHNOLOGY OF THE MIND: Chairman, *William R. Dennes.* The Control of the Mind by Reality; Human Cognition and Problem Solving: *Herbert A. Simon.* Political Education and Control of the Mind: *William E. Porter.* Communication and the Mind: *Harold D. Lasswell.* The Advance of Civilization: Panel Discussion. THE RESTRICTION AND FREEDOM OF THE MIND: Chairman, *John B. deC. M. Saunders.*

** Available only through your local bookstore.*

FARBER AND WILSON—Conflict and Creativity

Control of the Mind, Part II

Edited by SEYMOUR M. FARBER and ROGER H. L. WILSON, both of Univ. of California Medical Center.

384 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$6.50*t*

*McG-H Paperbacks Ed.**

A record of the symposium held at the Univ. of California San Francisco Medical Center which continued the discussion of ideas presented in *Control of the Mind, Part I.* Distinguished leaders in the fields of psychology, sociology, anthropology, genetics, and the creative arts explore the innate potentialities of individuals and those factors which permit or restrict their development and expression. The material covers: the application of psychopharmacology to our understanding of the mind; individual potentialities; conformity and diversity; creative expression; the individual and the community; drugs; the social effects and mood.

CONTENTS—Individual Potentialities. *Donald W. MacKinnon. Benjamin Pasamanick. Gardner Murphy. S.*

Rains Wallace. Clinical Implications of Mood. *Alexander Simon. Vincent Nowlis. Keith F. Killam, Jr. Henry K. Beecher.* The Evaluation of Drug Action. *Enoch Callaway, II. Leo E. Hollister, P. B. Dews (George C. Stone.) Harris Isbell.* Conformity and Diversity, I. *Jurgen Ruesch. Hadley Cantril. Rollo May. Richard S. Crutchfield.* Conformity and Diversity II. *David Krech. David G. Mandelbaum. C. H. Waddington. Carl R. Rogers.* Creative Expression. *Leo Lowenthal. Joseph Szigeti. Flavio de R. Carvalho. William H. Whyte, Jr.* The Resolution of Differences. *Francis C. Brown. M. Herve Alphand.*

** Available only through your local bookstore.*

FARBER AND WILSON—Man and Civilization

The Potential of Women

Edited by SEYMOUR M. FARBER and ROGER H. L. WILSON, both of the Univ. of Calif. Medical Center.

In Press

A book based on the symposium held at the University of California Medical Center, San Francisco, in October of 1962. It is the third book in the series covering the symposia on "Man and Civilization." One objective of this symposium was to define some of the questions that society must answer if women are to live full and useful lives in the freedom that the Twentieth Century has brought them. This book is an objective evaluation of the role and potential of women from many points of view—from the anthropologist, physician, philosopher, government official, historian, creative writer, ecologist, and others—from both men and women. It provides a new and important contribution to the whole understanding of the role of women in Western civilization.

CONTENTS—The Experimental Study of the Female. The Spectrum of Femininity. The Roles of Woman. The Consequences of Equality. The Male Revolt. The Private Worlds of Mr. and Mrs. Mitty.

GRINKER AND SPIEGEL—Men Under Stress

By ROY R. GRINKER, SR., M.D., Michael Reese Hospital and Medical Center, Chicago, and JOHN P. SPIEGEL, M.D., Harvard Medical School, Cambridge.

McG-H Paperbacks Ed. $2.65*pb**

Drs. Grinker and Spiegel worked with thousands of Air Force combat fliers during the war, both overseas and in stateside rehabilitation centers. They have recorded their experiences, observations and conclusions in this classic analysis of the effects of the manifold threats and strains of battle on the human mind. They have selected 65 case histories to reveal reactions during and after combat, as well as the effects of various treatments. There is a final section on civilian applications and a new Preface in which the authors relate these studies to the findings of contemporary behavioral science research.

** Available only through your local bookstore.*

KING—Readings for an Introduction to Psychology

By RICHARD A. KING, University of North Carolina.

400 *pp.*, 7 *x* 10, 185 *illus.* (1962) $3.95*c*

A group of readings designed to supplement the material in INTRODUCTION TO PSYCHOLOGY, by Clifford T. Morgan. Twenty chapters, corresponding to those in the Morgan text, each containing 2 to 6 articles plus introductory material for each article. Readings were selected for their historical importance, for their ability to amplify points in the text, and their value as a stimulus for student discussion.

CONTENTS—Preface. 1. The Field of Psychology. Methods of Observation. The Uses of Psychology. 2. Heredity and Environment. Maturation and Growth. Sensory Motor Development. 3. General Drives. Deprivation. Modification of Motives. Complex Motives. 4. Emotional Development. Bodily States in Emotion. 5. Conflict of Motives. Defense Mechanisms. Neurotic Reactions. 6. Techniques in Psychotherapy. Special Psychotherapies. 7. Factors in Learning. Classical Conditioning. Instrumental Learning. Perceptual Learning. 8. Transfer of Training. Retention and Forgetting. Programmed Learning. 9. The Solution of Problems. 10. Sensory Discrimination. Perception of Objects. Perceptual Constancy. Experience and Motivation. 11. Sensitivity of the Eye. Receptor Processes. 12. How the Ear Works. The Chemical Senses. The Skin Senses. 13. Kinds of Measurement. Characteristics of "Good" Psychological Texts. 14. Intelligence Tests. Extremes of Intelligence. Group Differences in Abilities. 15. Personality Characteristics. Personality Measurement. How Personality Develops. Theories of Personality. 16. Social Groups. 17. Attitude Change and Propaganda. Racial Attitudes and Conflicts. 18. Job Satisfaction. Engineering for Human Use. 19. The Internal Environment. Methods of Study. 20. Sensory Motor Mechanisms. Motivation and Emotion. Learning and Thinking.

LAZARUS—Adjustment and Personality

By RICHARD S. LAZARUS, University of California, Berkeley.

503 *pp.*, 6 *x* 9, 40 *illus.* (1961) $7.50*c*

A successful integration of the two fields of personality and adjustment, this text regards personality as made up largely of the more or less stable and organized process of adjustment. It is noteworthy for five chapters dealing with theoretical approaches to personality.

CONTENTS—THE CONCEPTS OF ADJUSTMENT AND PERSONALITY. Basic Problems. The Nature of Personality. PERSONALITY THEORY. Personality in Terms of Trait and Type. Association Learning Theory and Personality. Personality from a Phenomenological Point of View. Freud's Psychoanalytic Theory of Personality. Modifications of Psychoanalysis. PERSONALITY AND ITS DEVELOPMENT. The Development of Personality. Biological Factors and Personality. Social Factors and Personality. MORE ON THE ADJUSTMENT PROCESS. Adjustment and Stress. Failures of Adjustment. ASSESSMENT, TREATMENT, AND OTHER PRACTICAL APPLICATIONS OF THE FIELD. Personality Assessment and Clinical Diagnosis. Psychotherapy. Other Applications.

MARX AND HILLIX—Systems and Theories in Psychology

By MELVIN H. MARX, University of Missouri; and WILLIAM A. HILLIX, San Diego State College. *Series in Psych.*

512 *pp.*, 6 *x* 9, *illus.* (1963) $8.95*c*

Contains basic information on systematic and theoretical psychology for psychology students. Emphasizes the significant trends which become apparent in the coverage of traditional systems and a sampling of contemporary theories. Part I introduces general methodological considerations from the philosophy and practice of science. Part II surveys the six most prominent historical systems in psychology: structuralism functionalism associationism, behaviorism, Gestalt psychology, and psychoanalysis. Part III treats some contemporary psychological theories, with their associated issues. The broad categories are S-R theory, field theory, personality theory, and mathematical and engineering models. An appendix by three experts in their respective fields covers contemporary developments outside the United States. James Drever covers Europe, Josef Brozek the Soviet Union, and Shinkuro Iwahara the Orient.

CONTENTS—*Psychology as Science:* The Nature of Science. Psychology's Place in Science. Systems and Theories. *Systems of Psychology:* Structuralism. Functionalism. Associationism. Behaviorism. Geshalt Psychology. Psychoanalysis. *Contemporary Theories:* Varieties of S-R Theory. Varieties of Field Theory. Vari-

eties of Personality Theory. Mathematical and Engineering Influences on Psychology. Epilogue. Glossary. References. Appendix. Index.

MORGAN—Introduction to Psychology

By CLIFFORD T. MORGAN, The University of California. Second Edition.

727 *pp.*, 6¼ *x* 9¾, *illus.* (1961) $7.95*c*

Provides an authoritative but interesting and scientifically sound introductory textbook, broad in coverage, and organized to meet the needs of courses with varying emphases. It covers the traditional topics of general psychology and individual differences, as well as the physiological, social, applied, and clinical areas. Results of the most recent scientific research are integrated into the text; specific examples of experiments, research, and case work are cited to give greater meaning to concepts and theories. A study guide is available.

CONTENTS—Preface. To the Instructor. To the Student. PART ONE. INTRODUCTION. The Science of Psychology. Maturation and Development. PART TWO. MOTIVATION AND ADJUSTMENT. Drives and Motivation. Feeling and Emotion. Frustration and Conflict. Mental Health and Psychotherapy. PART THREE. LEARNING AND THINKING. Principles of Learning. Human Learning and Forgetting. Language and Thinking. PART FOUR. KNOWING THE WORLD. Perception and Attention. Vision. Hearing and the Lower Senses. PART FIVE. INDIVIDUAL DIFFERENCES. Psychological Measurement. Intelligence and Aptitudes. Personality. PART SIX. GROUP PROCESSES. Social Influences on Behavior. Attitudes, Beliefs, and Social Prejudice. Vocational Adjustment. PART SEVEN. BIOLOGICAL BACKGROUND. Nervous System and Internal Environment. Physiological Basis of Behavior. BIBLIOGRAPHY. GLOSSARY. NAME INDEX. SUBJECT INDEX.

SARTAIN, NORTH, STRANGE, AND CHAPMAN—Psychology

Understanding Human Behavior

By AARON Q. SARTAIN, ALVIN J. NORTH, JACK R. STRANGE, and HAROLD M. CHAPMAN, all of Southern Methodist University. Second Edition.

498 *pp.*, 6⅞ *x* 9¼, *illus.* (1962) $6.75*c*

Study Guide (Chancey) $2.50*c*

This revision, like its very successful predecessor, is designed primarily for the one-semester, introductory psychology course. The material is presented in an interesting, basically nontechnical manner, with two chief aims: (1) to present psychology as a science; and (2) to discuss psychological problems of special interest to college students and the general reader. The book presents the major facts in an introduction to psychology. The role of motivation and the processes of enhancement and defense of the self are a thread running through all the chapters.

CONTENTS—The Science of Psychology. Heredity and Environment. Self Defense and Enhancement. Motivation. Emotion. Personality. Culture and Personality. Attitudes. Psychological Factors in Behavior. The Senses. Perception. Conditioning. Effective Learning and Remembering. Thinking and Problem Solving. Measurement and Individual Differences. Intelligence. Evaluation and Appraisal. Leadership.

TAYLOR—Creativity

Edited by CALVIN W. TAYLOR, Univ. of Utah.

In Press

A summary of current knowledge about creativity, indicating further areas of study that are in need of research. The result of the fourth annual national research conference on creativity, this report will help stimulate the thinking of researchers, educators, politicians, and laymen and will lead to more knowledgeable decisions and actions. Education is considered to provide coverage of the research knowledge at each of the levels from preschool to higher education.

CONTENTS—Introduction. Predictors of Creative Performance. Education and Creativity. Environment and Training for Creativity. Criterion Measures of Creativity. A Summary: Some Knows, Needs, and Leads. Bibliography. Index.

GRAY—Psychology Applied to Human Affairs

By J. STANLEY GRAY, University of Georgia, and ten contributors. *Series in Psych.* Second Edition.

568 *pp.*, 6 *x* 9, *illus.* (1954) $7.95*c*

This symposium, a revision of *Psychology in Human Affairs*, constitutes an introduction to the applications of psychology in more than twenty fields of human affairs. Each chapter reviews the uses of psychology in a specific field and presents factual data on its effectiveness.

CONTENTS—Introduction—Antecedents of Applied Psychology. Psychology in College Life. Child Development. Educational Psychology. Vocational Guidance. Personality Adjustments. Psychology in Speech Correction. Mental Illness, by Paul A. Brown. Clinical Psychology, by Carroll A. Whitmer. Psychological Effects of Diet and Drugs. Crime and Crime Detection, by David B. Rogers. Psychology in Industry—Work and Efficiency, by Alfred G. Dietze. Psychology in Industry—Employment Methods, by Stanley E. Seashore. Psychology in Industry—Training and Morale, by Stanley E. Seashore. Psychology in Industry—Wage Determination. Psychology in Business, by Martha (Blosser) Noggle and W. Richard Myles. Military Psychology, by George L. Fahey. Psychology in Music, Art, and Leisure, by Gunborg Berglund-Gray. Public Opinion and Propaganda, by Ross Stagner.

PATTY AND JOHNSON—Personality and Adjustment

By WILLIAM L. PATTY, Los Angeles City College, and LOUISE S. JOHNSON, Los Angeles Harbor Junior College.

403 *pp.*, 6 *x* 9, 61 *illus.* (1953) $6.95*c*

A simple, practical introduction to personality adjustment and mental hygiene. Applies research from fields of psychology, psychiatry, physiology, sociology, mental hygiene, and education to understanding the individual. The authors trace the growth of personality, using many case illustrations and charts of life periods and value stages to clarify processes of personality development.

CONTENTS—Part I. MENTAL HEALTH AND PERSONALITY ADJUSTMENT: The Need for Mental Health. Approaches to Mental Health. Part II. FUNDAMENTALS OF PERSONALITY: Motivation. Psychosomatics. Culture. Perception. Part III. PERSONALITY AND GROWTH: The Growth of Personality. Learning and Personality. The Structuring of Personality. The Adjustments of Personality. Part IV. AREAS OF PERSONALITY ADJUSTMENT: Courtship and Marrying. Home and Family. Handicap. Delinquency. Part V. PERSPECTIVE FOR MENTAL HEALTH: Readjustment. The Criteria.

RUJA—Psychology for Life

By HARRY RUJA, San Diego State College.

427 *pp.*, 6 *x* 9, 103 *illus.* (1955) $6.95*c*

Student Workbook to Accompany Psychology for Life (Ruja and Nuttall) $2.25*c*

"Student-oriented," "practical," and "realistic" are the terms that best describe this introduction to general psychology. The author writes in a lively style and includes those topics most important and meaningful to the beginner. Self-tests and reading references are included, and the index is replete with a glossary in addition to the usual text references.

CONTENTS—Preface. Introduction. The values of psychology. Psychology as science. Learning and remembering. Efficient college learning. Motivating learning. Learning through practice. Meaningful learning. Remembering. Vocational choice and intelligence. Choosing a vocation. Intelligence and vocational success. Intelligence: its nature and measurement. The shaping of intelligence by heredity. The shaping of intelligence by environment. Thinking and perceiving. Thinking. Attending, observing, and perceiving. Personality and motivation. Personality factors in friendship and marriage. What is

personality? Character, culture, and physique. Motivation in daily life. Emotions and mental health. Living with our emotions. Controlling fear and anger. The sick mind. Reactions to frustration. The healthy mind. Becoming mature. References. Glossary and Index.

MISIAK AND STAUDT—Catholics in Psychology

A Historical Survey

By HENRYK MISIAK, Fordham University, and VIRGINIA M. STAUDT, Hunter College. Foreword by EDWIN G. BORING, Harvard University. *Series in Psych.*

309 *pp.*, 6 *x* 9, 3 *illus.* (1954).....$6.95*c*

Designed for courses in general psychology and in the history of psychology, this distinctive text is a historical portrait of the pioneering Catholic psychologists here and abroad who introduced psychology into Catholic circles as a scientific study independent of philosophy.

CONTENTS—Psychology and Catholics. Catholics in Early German Psychology. Cardinal Mercier, the Catholic Pioneer of Scientific Psychology. The Catholic University of Louvain. Edward Aloysius Pace. Joseph Frobes. Albert Edouard Michotte. Johannes Lindworsky. Agostino Gemelli. Eric Wasmann. Emile Peillaube and the Catholic Institute in Paris. Kazimierz Twardowski. Thomas Verner Moore. Sister Marie Hilda. Other Catholic Pioneers in Europe. Other Pioneers in America. Schools, Organizations, and Periodicals. Catholic Psychologists in Retrospect. Looking to the Future. Appendix A: Bibliography for History of Psychology in English. Appendix B: Bibliography for Recent Major Catholic Textbooks in English.

BERNHARDT—Practical Psychology

By KARL S. BERNHARDT, University of Toronto, Canada. Second Edition.

337 *pp.*, 5½ *x* 8 (1953).....$6.25*t**†

A simple, usable, and practical introduction to psychology on the post-secondary school level. The book provides a sound treatment of psychology while omitting many of the technical details usually found in college-level texts. It has a definite practical approach, covering most of the usual topics in introductory psychology and adding chapters on child training, mental hygiene, and personal adjustment.

CONTENTS—Introduction. An Introduction to the Study of Psychology. Efficiency in Reading and Study. The Origin and Control of Human Activity. Development and Adjustment. Human Motivation. Mechanics of Adjustment to Frustration. Influencing Other People. The Regulation of Child Behavior. Feelings and Emotions. Emotional Control. Individual Differences and Other Measurement. Intelligence and Intelligence Tests. Aptitude Measurement. Personality and Its Measurement. Relations with Other People. Social Relations. Vocational Adjustment. Mental Hygiene and Sane Living.

* *Not available for sale in Canada.*

SMITH—Personality Adjustment

By HENRY CLAY SMITH, Michigan State University.

617 *pp.*, 6 *x* 9, 150 *illus.* (1961)...$7.95*c*

This book gives detailed and factual consideration to many personal and social problems within a tightly-knit organization based on the trait, structural, and adjustment views of personality. The organization between and within chapters is designed to present a clear, comprehensive and new view of the science of personality—with each minor part focused on the implications for everyday living. Organized about a scientific framework, it includes four main parts: the science of personality; personality traits; personality structure; adjustment problems.

CONTENTS—Preface. THE SCIENCE OF PERSONALITY: Goals in Studying Personality; Personality Theories; Personality Methods. PERSONALITY TRAITS: Drives; Temperament; Perception; The Self; Values; Problem-Solving; Human Relations. PERSONALITY STRUCTURE: Personality Mechanisms; Major Personality Disorders; Minor Personality Disorders; The Superior Personality. ADJUSTMENT PROBLEMS: College Adjustment; Occupational Adjustment; Marital Adjustment; Parental Adjustment; Adjustment to Aging; The Superior Society.

SORENSON AND MALM—Psychology for Living

By HERBERT SORENSON, University of Kentucky, and MARGUERITE MALM, Indiana State Teachers College. Second Edition.

672 *pp.*, 6⅜ *x* 9¼, 510 *illus.* (1957)..$5.88*s*

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Correlated Text-Film Series—Five 16mm sound motion pictures.....$355.00

The Second Edition of this widely used high school psychology text offers 510 illustrations, a double-column format with color throughout, and an order of presentation that emphasizes personality as a natural introduction to the subject. It provides material on personality and personality testing, a section on feelings, concepts, and attitudes, a section on the senses, and expanded material on studying, learning, remembering, and thinking.

CONTENTS—PART I—YOUR PERSONALITY GROWTH. Your Personality and Its Improvement. Your Success with Others. Habits—Your Friends and Your Enemies. Your Basic Needs and Satisfactions. PART II—YOUR MENTAL AND EMOTIONAL HEALTH. Your Emotions—How They Help and How They Hinder. Trying to Hide Your Faults and Weaknesses. Running Away from Your Troubles and Problems. Your Feelings, Concepts, and Attitudes. Handling Your Anger and Fear. Your Conflicts and Frustrations. What You Should Know about the Serious Maladjustments. PART III—YOUR PHYSICAL GROWTH AND LEARNING. Your Structures for Awareness and Response. Understanding Your Physical Growth. The Effect of Physical Growth on Your Personality. Your Success in School and in Adulthood. Getting the Most Out of Your Studies. Your Lifetime Learning. How to Remember. PART IV—YOUR INTELLIGENCE AND THINKING. What You Should Know about Your Intelligence. Your Mind at Work. The Foolers to Watch for in Your Thinking. PART V—YOUR COURTSHIP, MARRIAGE, AND LIFEWORK. Getting Along with Members of the Other Sex. Making a Wise Marital Choice. Making a Successful Marriage. Planning for Your Career.

KOCH—Psychology

A Study of a Science

Edited by SIGMUND KOCH, Duke University.

Volume I (1958).....$10.50*c*

Volume II (1958).....$11.00*c*

Volume III (1959).....$12.50*c*

Volume IV (1962).....$12.50*c*

Volume V (1963).....$13.50*c*

Volume VI (1963).....$12.50*c*

Volume VII.....*In Press*

A seven-volume inquiry into the status and tendency of psychological science, conducted by a large number of its most creative workers. Over 80 distinguished authors have contributed sustained analytic essays which give searching consideration to major theoretical formulations of recent importance, and to the structure, mutual interrelations and associations with other sciences of the principal empirical areas over which psychological research is deployed.

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Thirty-six eminent psychologists who have originated or creatively developed influential systematic formulations pertinent to the main subject matter areas of current psychology conduct intensive inquiry into the presuppositional bases, conceptual content, working methods, achievements, prospects, and limits of their own formulations. Virtually every major conceptual incidence and systematic strategy is represented. A uniform discussion plan makes the individual essays comparable at many vital

† *Textbook edition available at educational list price.*

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This study seeks increased understanding of the internal structure of psychological science, and its place in the matrix of scientific activity. Fifty contributors with distinguished research backgrounds in psychology, and in related biological and social sciences, have written papers which examine the organization of empirical knowledge within specialized areas of these disciplines, and which chart their cross-connections. Psychologist contributors consider the relations between their own fields of special competence and other areas of psychology, and inquire also into relations with relevant segments of other sciences. Social and biological science contributors examine the relations between their own fields and psychology.

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Volume V. THE PROCESS AREAS, THE PERSON, AND SOME APPLIED FIELDS: THEIR PLACE IN PSYCHOLOGY AND IN SCIENCE.

Perception and Learning; Leo Postman. Behavioral Laws and Perceptual Facts; Norman Guttman. The Nature of a Stimulus: Some Relationships Between Learning and Perception; Douglas H. Lawrence. Behavior and Perception; W. N. Schoenfeld and W. W. Cumming. Motivation in Learning Theory; Ernest R. Hilgard. The Motivation of Exploratory and Epistemic Behavior; Daniel E. Berlyne. Interrelations Between Learning and the Fields of Perception and Personality; Robert Leeper. Personality: Its Place in Psychology; Nevitt Sanford. Problems of Personality, and Some Relations to Anthropology and Sociology; Irvin L. Child. Identity, Situation, and Social Interaction: The Impact of Social Structure on Motivation; Daniel R. Miller. Some Interrelations of Clinical and General Psychology in the Understanding of Psychopathology; Eliot H. Rodnick. An Historical and Theoretical Analysis of Some Broad Trends in Clinical Psychology; Julian B. Rotter. Human Engineering and Psychology; Franklin V. Taylor. Engineering Psychology; Paul M. Fitts.

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POSTSCRIPT TO THE STUDY (IN PREPARATION)

Volume VII. PSYCHOLOGY AND THE HUMAN AGENT: A VIEW OF PROBLEMS IN THE ENACTION OF A SCIENCE, BY SIGMUND KOCH

This final volume of the series presents certain views of the director which crystallized during the years of work on the project. The book (a) records those attitudes towards psychology and science which necessarily color in some degree the spirit of the Study, (b) constructs trends from the massive findings of the two group studies, and (c) considers, in the light of the Study's premises and apparent trends, certain problems of psychological inquiry suggested by the practice of the past several decades. Though many of the issues raised relate to problems that have been discussed variously in terms of the "methodology," "metatheory," or "logic" of psychology, they are approached in a way which seeks to keep the processes of science, rather than its rationalized products, at the center of analysis.

SHAFFER AND LAZARUS—Fundamental Concepts in Clinical Psychology

By G. WILSON SHAFFER, The Johns Hopkins University, and RICHARD S. LAZARUS, University of California, Berkeley. *Series in Psych.*

540 *pp.*, 6 *x* 9, 25 *illus.* (1952).....$7.50*c*

A well-balanced treatment of the principles, problems, and procedures of clinical psychology. Rather than stressing specific techniques or describing tests, it emphasizes theory, methodology, concepts—the fundamentals which form the background and bases of the procedures used by the clinician. Large areas are constantly surveyed to provide critiques for what has been presented.

CONTENTS—Historical Development. Methodology. Clinical Techniques. Intelligence and Its Measurement. Defects of Intelligence. The Nature of Personality. Personality Measurement. I. Personality Measurement. II. Introduction to Psychotherapy. Psychotherapeutic Devices. Psychoanalysis. Distributive Analysis and Synthesis. Special Psychotherapies. Physical and Chemical Therapies. The Clinician in Action.

WALLEN—Clinical Psychology
The Study of Persons
By RICHARD W. WALLEN, The Personnel Research and Development Corp. *Series in Psych.*
388 *pp.*, 6 *x* 9, *illus.* (1956).....$6.95*c*

Skillfully illustrated by interesting case histories, this practical book is designed to help the reader prepare for the actual practice of clinical psychology, rather than simply to tell him about varieties of abnormality or theories of personality. Here, the major methods used by clinical psychologists are presented at a level suitable for students who are beginning the study of the subject. The treatment of the interview, projective methods, psychometric tests, and psychotherapy not only give a survey of the clinician's work, but establish a foundation for further specialized courses.
CONTENTS—The Study of Persons. Prediction in Clinical Psychology. Clinical Sensitivity and Hypothesis Making. The First Meeting: Expectations and Orientation. Interviewing: Observational Data. Interviewing: The Report. The Medical Assessment of the Person (*By Roy M. Whitman, M.D.*). The Rorschach Method. The Thematic Apperception Test. A Variety of Supplementary Methods. The Clinical Use of Psychometric Tests. Individual Psychotherapy: Initial Steps and Aim. Psychotherapeutic Methods. Index.

TERMAN AND MILES—Attitude-Interest Analysis Test
By LEWIS M. TERMAN, formerly Stanford University, and CATHARINE C. MILES.
Form A: 16 *pp.*, 8½ *x* 11, *paper* (1936)
Sold in packets of 25 only.....$4.50*c*

The M-F Test has been developed as a measure of mental masculinity and femininity. The purpose is to make possible a quantitative estimation of the amount and direction of a subject's deviation from the mean of his or her sex in interests, attitudes, and thought trends. The M-F Test is a pencil-and-paper test of the questionnaire variety. It is made up in two equivalent forms, A and B. Form A contains 456 items; Form B, 454. The two forms are entirely different in content in the sense that no item appears in both. However, the forms have been balanced with great care so as to be analogous throughout.

Abnormal

BROWN—The Psychodynamics of Abnormal Behavior
By J. F. BROWN, formerly University of Kansas. With the collaboration of KARL A. MENNINGER, Chief-of-Staff, The Menninger Clinic, on Part IV (Psychiatry). *Series in Psych.*
484 *pp.*, 6 *x* 9, *illus.* (1940).....$7.95*c*

Written from the standpoint of psychoanalysis and Gestalt psychology, this important book is unique in that it integrates the psychoanalytic approach into the subject matter and offers a thoroughly systematic treatment covering the complete theoretical background of abnormal behaviors. The author has adopted the organismic solution to the psychosomatic problem and treats each behavior disorder systematically in terms of its cause, significance, and economy.
CONTENTS—The Organismic Viewpoint. Symptomatology. Theory of the Structure and Genesis of the Personality. Psychiatry. The Future of Psychodynamic Theory.

KISKER—The Disorganized Personality
By GEORGE W. KISKER, Univ. of Cincinnati.
In Press

Surveys field of abnormal psychology. The book incorporates a clinical orientation based on the author's experience in the clinical field. Selected case histories drawn from the author's files will be accompanied by recorded interviews. Includes current advances in biochemistry, social psychiatry, experimental psychopathology, and mental retardation.

PAGE—Abnormal Psychology
By JAMES D. PAGE, Temple University. *Series in Psych.*
450 *pp.*, 6 *x* 9, 24 *figures and tables* (1947) $7.50*c*

A well-balanced text dealing with personality misfits in society, designed for undergraduates with a limited background in psychology. The book summarizes our knowledge of the causes, symptoms, treatment, and outcome of psychoneuroses, psychoses, mental deficiencies, and anti-social personalities. Important developments in the field of psychopathology are considered, including psychosomatic medicine, shock therapy, group therapy, hypnoanalysis, and war neuroses.
CONTENTS—The Normal and the Abnormal. Motivation and Adjustment. Mental Mechanisms and Symptoms. General Causes of Abnormal Behavior. Introduction to the Psychoneuroses. Hysteria, Anxiety State, and Neurasthenia. Other Forms of Psychoneuroses. Treatment of the Psychoneuroses. Psychoanalysis and Related Schools. Introduction to the Psychoses. Schizophrenia. Manic-depressive Psychoses. Involutional Melancholia and Paranoia. Alcoholic Mental Disorders. Toxic and Organic Psychoses. Epilepsy. Mental Deficiency. Anti-social Personalities and Crime. Glossary. List of Visual Aids.

Personality and Psychotherapy

BLUM—Psychoanalytic Theories of Personality
By GERALD S. BLUM, University of Michigan. *Series in Psych.*
219 *pp.*, 6 *x* 9 (1953).....$6.50*c*

An integrated treatment of various psychoanalytic theories (propounded by Freud and other leading theorists) on personality. The integration takes place by fitting the contribution of each theorist into a genetic sequence from before birth up to adulthood. The author evaluates the theories from a scientific research standpoint, including brief résumés of existing experimental data, suggestive evidence from related fields (cultural anthropology and learning theory), consideration of logical inconsistencies and semantic confusions, and comparisons of overlapping views.
CONTENTS—Prenatal and Birth Influences. The Neonate's Personality Potential. The First Year of Life. Ages One to Three Years. From Three to Five. The Latency Period (Age Five to Prepuberty). Prepuberty and Adolescence. Adult Character Structure. Post-Mortem. Bibliography. Name Index. Subject Index.

DOLLARD AND MILLER—Personality and Psychotherapy
An Analysis in Terms of Learning, Thinking, and Culture
By JOHN DOLLARD and NEAL E. MILLER, Yale University. *Series in Psych.*
496 *pp.*, 6 *x* 9, *illus.* (1950).....$7.95*c*
*McG-H Paperbacks Ed.**

Explains in easily understood terms the creative new integration of modern sociology, Freudian analysis, and experimental psychology which forms the basis for recent developments in psychiatric treatment.

CONTENTS—ORIENTATION: Main Points. What Is a Neurosis? BASIC PRINCIPLES OF LEARNING: Four Fundamentals of Learning. Significant Details of the Learning Process. Learned Drive and Learned Reinforcement. THE NORMAL USE OF THE MIND IN SOLVING EMOTIONAL PROBLEMS: Introduction to Higher Mental Processes: Effect on Transfer and Discrimination. The Role of Words and Sentences in Arousing Drives, Mediating Rewards, and Producing Foresight. Reasoning and Planning. Social Training in the Use of Higher Mental Processes. HOW NEUROSIS IS LEARNED: Social Conditions for the Learning of Unconscious Conflicts. How Symptoms Are Learned. The Unconscious: How Repression Is Learned. The Interactions among the Basic Factors Involved in Neurosis. THE NEW CONDITIONS OF THERAPEUTIC LEARNING: Preview of Main Factors in Therapy. Selecting Patients Who Can Learn. Free Association—Permissiveness and the Compulsion to Utter. Transference: Generalized Responses in the Therapeutic Situation. Labeling: Teaching the Patient to Think about New Topics. Teaching the Patient to Discriminate: Role of Past and Present. Gains from Restoring the Higher Mental Processes. CONFLICT: Why Conflicts and Misery Can Be Relieved Only in Real Life. The Dynamics of Conflict: Their Implications for Therapy. A Hypothesis Concerning Alcohol, Barbiturates, and Lobotomy. SPECIAL ASPECTS OF THERAPY: Ways of Getting Rid of Symptoms. Techniques of Therapeutic Intervention. Keeping the Patient's Motivation to Continue Stronger than That to Quit. Requirements of the Therapist as a Special Kind of Teacher. How Therapy Can Go Wrong. TWO APPLICATIONS TO NORMAL LIVING: Self-study. Suppressing Troublesome Thoughts to Get Freedom for Creative Thinking.

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GORLOW AND KATKOVSKY—Readings in the Psychology of Adjustment

Edited by LEON GORLOW, The Pennsylvania State University, and WALTER KATKOVSKY, Fels Research Institute and Antioch College.

541 *pp.*, 6 *x* 9, 8 *illus.* (1959).....$6.95*c*
Soft-cover Ed. $4.95*c*

A book of readings which presents fundamental issues, concepts, and argument in the study of human adjustment. The editors have managed to integrate the readings into a systematic presentation by providing introductions to each major section.

CONTENTS—Preface. Introduction. THE PHILOSOPHY OF SCIENCE AND METHODS OF INQUIRY. The Philosophy of Science. Methods of Inquiry. THE CONCEPT OF ADJUSTMENT. THEORIES OF PERSONALITY. THE PROCESS OF ADJUSTMENT. The Determinants of Adjustment. The Dynamics of Adjustment. Psychopathology. ADJUSTMENT AND DEVELOPMENT. PSYCHOTHERAPY. PRESSING PROBLEMS.

GUILFORD—Personality

By J. P. GUILFORD, University of Southern California. *Series in Psych.*

563 *pp.*, 6 *x* 9, 46 *illus.* (1959).....$7.95*c*

Treats some of the major, general issues currently involved in the study of personality and develops a logical foundation for a basic science of that subject. The author approaches personality from the standpoint of the logic of experimental method and develops a model of personality based upon factor theory as a basis for the assessment and description of persons. Emphasis is on individual differences, rather than on stimulus-response psychology of individual behavior.

CONTENTS—Conceptions of Personality. Issues and Approaches to Personality. The Prediction of Behavior. Behavior Traits. The Structure of Personality. Morphological and Physiological Methods. Observational Methods, Ratings, Interviews. Personality Inventories. Interest and Attitude Measurement. Behavior Tests. Expressive Methods. Projective Techniques. Other Clinical Methods. Somatic Dimensions. Dimensions of Aptitude. Dimensions of Temperament. Hormetic Dimensions. Dimensions of Pathology. References. Appendix A. Index.

LEWIN—A Dynamic Theory of Personality

By KURT LEWIN. Translated by KARL E. ZENER and DONALD K. ADAMS, Duke University. *Series in Psych.*

286 *pp.*, 6 *x* 9 (1935)..*Cloth Edition* $6.95*c*
*McG-H Paperbacks Ed.**

A collection of articles which gives a picture of the psychology of the person and of the environment, and at the same time indicates their connections with various applied fields, especially child psychology, pedagogy, psychopathology, characterology, and social psychology.

CONTENTS—The Conflict between Aristotelian and Galilean Modes of Thought in Contemporary Psychology. On the Structure of the Mind. Environmental Forces in Child Behavior and Development. The Psychological Situations of Reward and Punishment. Education for Reality. Substitute Activity and Substitute Value. A Dynamic Theory of the Feeble-minded. Survey of the Experimental Investigations.

** Available only through your local bookstore.*

STAGNER—Psychology of Personality

By ROSS STAGNER, Wayne State University. *Series in Psych.* Third Edition.

586 *pp.*, 6 *x* 9, 63 *illus.* (1961).....$7.95*c*

Provides the student with an introduction to current knowledge of the normal personality. The text avoids technical controversies. Rather, emphasis is placed on the author's conception of personality development and organization, built around homeostasis and the process of perceiving. Weaknesses of this formulation are indicated and competing viewpoints are given credence. In this way students may learn of the major differences among psychologists which produce variations in the interpretation of certain data about personality. This edition includes the recent developments in personality studies.

CONTENTS—Introduction. The Scientific Study of Personality. Methods: Ratings and Observations. Methods: Inventories and Projective Tests. DEVELOPMENT. Basic Principles. Emotional Foundations. Frustration, Stress and Conflict. DESCRIPTION. Personality Style. Traits. The Self. Character. Attitudes and Values. Type Theories. DYNAMICS. Biogenic Drives. Psychoanalytic Theories of Motivation. Motivation as Goal-Seeking. DETERMINANTS. Biological Approaches. The Family (1) Childhood. The Family (II) Maturity. The School System. Class and Economic Factors. Personality and Social Values. Bibliography and Author Index. Subject Index.

Developmental

HURLOCK—Developmental Psychology

By ELIZABETH B. HURLOCK, University of Pennsylvania. *Series in Psych.* Second Edition.

645 *pp.*, 6 *x* 9, 131 *illus.* (1959)....$7.95*c*

With important stress upon each level of development as foundation for the next, this text covers the life span from conception to death with emphasis upon the outstanding characteristics of the normal individual in each of the major life periods. A similar treatment pattern for each age group shows how changes of interests, attitudes, and behavior occur as the individual develops and then declines with advancing age. In this second edition more emphasis is placed on cultural influences and on social-class influences within the culture.

CONTENTS—Preface. Growth and Decline. How Life Begins. Infancy. Babyhood. Early Childhood. Late Childhood. Puberty. Early Adolescence. Late Adoles-

cence. Early Adulthood. Early Adulthood (continued). Middle Age. Middle Age (continued). Old Age. Old Age (continued). Name Index. Subject Index.

ZUBEK AND SOLBERG—Human Development

By JOHN P. ZUBEK, University of Manitoba, and P. A. SOLBERG, Health Services and Rehabilitation Section, Research Division Department of National Health and Welfare, Ottawa, Canada. *Series in Psych.*

435 *pp.*, 6 *x* 9, 111 *illus.* (1954).....$6.95*c*

A bio-socially, experimentally oriented text. It treats the development and decline throughout the life span of all phases of development: physical, sensory, motor, mental, intellectual, emotional, and social. Approximately the same amount of space is given to each of the major periods of life; particular attention is given to recent post-war research on maturity and old age.

CONTENTS—Introduction. Genetic Foundations of Behavior. Neural Development. Glandular Development. Physical Development. Motor Development. Sensory Development: I. Vision and Hearing. Sensory Development: II. Chemical and Cutaneous Senses. Learning and Symbolic Processes. Intellectual Development. Emotional Development. Social Development. Development and Change of Interests, Beliefs, Values, and Attitudes. Personality. Visual Aids.

DEESE—The Psychology of Learning

By JAMES E. DEESE, The Johns Hopkins University. *Series in Psych.* Second Edition.

367 *pp.*, 6 *x* 9 (1958).....$6.95*c*

This representative picture of the basic facts and theoretical problems in the psychology of learning places strong emphasis on experimental evidence. Theories of learning are treated in the context of particular problems, and the theoretical emphasis is upon the analysis of problems rather than upon differences between theoretical "schools." In this second edition the number of special topics has been reduced, each topic is more thoroughly explored and more carefully related to other topics.

CONTENTS—Introduction. Reinforcement and Learning. Extinction and Partial Reinforcement. Discrimination and Learning. Motivation and Learning. Emotion and Learning. Serial Learning. The Learning of Skills and Conditions of Practice. Transfer of Training. Retention and Forgetting. Problem Solving and Thinking. Theory and Applications of Learning.

HURLOCK—Child Development

By ELIZABETH B. HURLOCK, University of Pennsylvania. *Series in Psych.* Third Edition.

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CONTENTS—Text-Films. Principles of Development. Prenatal Development. The Newborn Infant. Physical Growth. Motor Development. Development of Speech. Emotional Development. Social Development. Social Adjustments. Play. Development of Understanding. Moral Development. Some Childhood Interests. Family Relationships. Personality. Bibliography. Visual Bibliography. Name Index. Subject Index.

HURLOCK—Adolescent Development

By ELIZABETH B. HURLOCK, University of Pennsylvania. *Series in Psych.* Second Edition.

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CONTENTS—Adolescence: Age of Transition. Puberty Changes. Psychological Significance of Body Changes. Emotions in Adolescence. Social Behavior. Social Adjustments. Adolescent Interests. Personal Interests. Adolescent Recreations. Religious Beliefs and Attitudes. Moral Concepts and Behavior. Sex Interests. Dating and Courtship. Family Relationships. Personality.

PIKUNAS AND ALBRECHT—Psychology of Human Development

By JUSTIN PIKUNAS, University of Detroit, and EUGENE J. ALBRECHT, Villanova University.

346 *pp.*, 6 *x* 9, 30 *illus.*.....$6.95*c*

Considering the total life span and factors affecting it in a factual, scientific manner, this text stresses the continuity of human life by presenting each age level in the light of past development and as a preparation for successive levels of life. It identifies the developmental tasks and hazards for each stage of development in the modern context of American living.

CONTENTS—Preface. BASIC APPROACH: Introduction; Research Methods; Principles of Development. FUNDAMENTAL INFLUENCES: Factors Influencing Development and Personality; Developmental Aspects and Trends. PRENATAL GROWTH AND BIRTH: Prenatal Development; The Human at Birth. INFANCY: Early Infancy; Late Infancy; Personality Foundations During Infancy. CHILDHOOD: Preschool Age; Middle Childhood; Late Childhood: PUBERTY: Puberal Developments; Personality Reorganization. ADOLESCENCE: The Dynamics of Adolescent Behavior; Development of Personality and Character. ADULTHOOD: Achieving Adult Status; The Concept and Criteria of Maturity; Developmental Tasks of Early Adulthood; Middle Adult Years. LATE STAGES OF LIFE: Biological and Mental Changes; Senescent Self-Concept, Needs, and Problems. RECAPITULATION AND CONCLUSIONS: Synopsis of Psychological Developments Throughout Life. Glossary. Appendix.

STRANG—The Adolescent Views Himself

A Psychology of Adolescence

By RUTH STRANG, Columbia University.

581 *pp.*, 6 *x* 9, 72 *illus.* (1957).....$9.75*t*†

The focus of this book is on the manifold ways in which adolescents perceive themselves in the psychological, social, and physical setting in which they are growing up. Thus, the book attempts to describe the unique transitional stage between childhood and adulthood largely through the eyes of young people themselves: how they view themselves and their world, the developmental tasks to be accomplished during this period, and the kind of learning conditions and guidance they would like to have. By combining the statements of adolescents with established facts of adolescent psychology, the author emphasizes both the commonality and the uniqueness of this age group.

† *Textbook edition available at educational list price.*

CONTENTS—Preface. How to Read This Book. Sources of Understanding. HOW ADOLESCENTS VIEW THEMSELVES AND THEIR WORLD. The World in Which Adolescents Live. Developing an Adequate Self-concept and Philosophy of Life. How It Feels to Be Growing Up. ADOLESCENTS' PERCEPTION AND ATTAINMENT OF THEIR DEVELOPMENTAL TASKS. Continuity of Growth toward Maturity. Achieving Physical and Sexual Maturity. Achieving Scholastic Success. Achieving Desirable Relations with One's Peers. Making a Good Adjustment to the Opposite Sex. Family Factors in Achieving Independence without Antagonism. Progressing toward Educational and Vocational Goals. Achieving Socially Responsible Behavior. Favorite Learning Conditions. Guidance of Adolescents. Index.

Physiological

MORGAN AND STELLAR—Physiological Psychology

By CLIFFORD T. MORGAN, University of California, and ELIOT STELLAR, University of Pennsylvania. *Series in Psych.* Second Edition.

564 *pp.*, 6 *x* 9, 173 *illus.* (1950).....$7.95*c*

This book is both a textbook for undergraduates who are preparing for psychology or medicine and a reference for graduate students and workers in psychology, physiology, and medicine. To serve this twofold purpose, the elementary facts of psychology, physiology, and anatomy are explained and then followed by the more advanced aspects of research in the field.

CONTENTS—Introduction. The Peripheral Response Mechanism. The Central Nervous System. Nerve Physiology. The Internal Environment. The Chemical Senses. Spatial Vision. Brightness Vision. Color Vision. Hearing. The Skin Senses. Somesthetic Mechanisms. The Motor System. Reflexes. Coordination. Emotion. Sleep and Activity. Bodily Needs. Instinctive Behavior. Mating Behavior. Conditioning. Sensory Learning. Problem Solving. Brain Lesions in Man. Behavior Disorders. Electrical Activity and Behavior. Bibliography and Author Index. Subject Index.

WARREN AND AKERT—Frontal Granular Cortex and Behavior

Edited by J. M. WARREN, The Pennsylvania State Univ. and K. AKERT, Univ. of Zurich. *Series in Psych.*

In Press

Presents a broad sampling of the methods and techniques used and the results obtained by investigators representing the disciplines of comparative anatomy, experimental and clinical psychology, neurophysiology, and neuropsychiatry. The basic approach is that of comparative evolutionary biology. Results from a variety of species of experimental animals and human clinic patients demonstrate the value of transferring methods and concepts between the experimental animal laboratory and the clinic, for striking similarities are suggested in the functions mediated by the frontal association cortex at several diverse evolutionary levels. The frontal association cortex is importantly involved in learning, problem solving, perception, motivation, and social intelligence. Consists of 20 edited papers delivered at a symposium on Prefrontal Cortex and Behavior.

CONTENTS—*Participants*—S. Spafford Ackerly. K. Akert. Stefan Brutkowski. Gilbert M. French. Charles G. Gross. Harry F. Harlow. Henri Hecaen. Harvey Karten, Jerzy Konorski. W. Lawicka. A. R. Luria. Donald R. Meyer. Raymond C. Miles. Brenda Milner. Mortimer Mishkin. Walle J. H. Nauta. Karl H. Pribram. Ralph Reitan. Philip M. Rennick. H. Enger Rosvold. John S. Stamm. Janusz Subczynski. Hans-Lukas Teuber. Robert Thompson. Helen B. Warren. Martha Wilson. W. A. Wilson.

Motivation

BROWN—The Motivation of Behavior

By JUDSON S. BROWN, University of Florida. *Series in Psych.*

404 *pp.*, 6 *x* 9, 72 *illus.* (1961).....$7.95*c*

Placing great emphasis on the Hillian conception of drive as a general energizer of behavior, this book examines alternative theoretical interpretations from the point of view of logical soundness and empirical worth. It covers studies of primary and acquired sources of motivation in animals from both behavioral and physiological approaches. It also treats with research on human motivation including frustration, conflict, need achievement, anxiety, perception, and various social drives.

CONTENTS—Preface. The Psychologist's Task and the Problem of Motivation. Intervening Variables and the Definition and Measurement of Drive. Primary Sources of Drive. Motivational and Associative Interpretations of "Motivated" Behavior. Learned Responses as Sources of Drive. Motivational Consequences of Frustration and Conflict. Motivational Variables and Human Performance. Motivational Variables and Perception. Miscellaneous Motivational Problems. References. Name Index. Subject Index.

RETHLINGSHAFER—Motivation as Related to Personality

By DOROTHY RETHLINGSHAFER, University of Florida. *Series in Psych.*

388 *pp.*, 6 *x* 9, *illus.* (1963).....$7.95*c*

This text emphasizes changes in human activity. A biological approach to motivation is first considered but an emphasis is increasingly given to studies using human subjects. There is an interest in personality theory to the degree that it is useful in understanding motivation. The experimental approach is used. It is organized around such concepts as arousal, personal pace, drive, and drives. In addition, consideration is given to choice as motivationally determined. Illustrations are from both industry and, to some degree, from clinical observations.

CONTENTS—Introduction. Energetics. Biological Approach to Motivation. Investigative-exploratory Tendency. Activation. Personal Pace. Fluctuations in Activation: Specific Components in Drive. Goals. Selecting—from Sensitization to Choice. Cognitive Activities. Motivational Determinants, and Selectivity. Tension. Anxiety—a Specific Tension State. Motivation and Learning. Bibliography. Index.

Experimental

BERLYNE—Conflict, Arousal, and Curiosity

By D. E. BERLYNE, Boston University. *Series in Psych.*

350 *pp.*, 6 *x* 9, 16 *illus.* (1960).....$7.95*r*

During the last ten years, the tempo of research into exploratory behavior and related phenomena has been steadily quickening. This book, the first in the field, attempts to put together an integrated picture from elements drawn from contemporary currents: behavior theory, information theory, and neurophysiology. The author believes now is the time to take stock: to review relevant data and consider what conclusions are justified at the present time, and to clarify what remains to be done.

CONTENTS—Preface. Stimulus Selection and Conflict. Novelty, Uncertainty, Conflict, Complexity, Attention. Exploratory Behavior: I. Orienting Responses. Exploratory Behavior: II. Locomotor Exploration. Exploratory Behavior: III. Investigatory Responses. Toward a Theory of Exploratory Behavior: I. Arousal and Drive. Toward a Theory of Exploratory Behavior: II. Arousal Potential, Perceptual Curiosity, and Learning. Art and Humor. Epistemic Behavior: Knowledge and Thinking. Toward a Theory of Epistemic Behavior: Conceptual Conflict and Epistemic Curiosity. Bibliography. Name Index. Subject Index.

BROWN AND GHISELLI—Scientific Method in Psychology

By CLARENCE W. BROWN, and EDWIN E. GHISELLI, University of California, Berkeley. *Series in Psych.*

368 *pp.*, 6 *x* 9, *illus.* (1955).....$7.50*c*

Describes the method of science as it is applied to the study of psychological phenomena. Science is described as a general method of approach to the study of problems, a method that encompasses innumerable special procedures that are devised to study phenomena in specific subject matter.

CONTENTS—Some General Concepts about the Scientific Method. Some Characteristics of Science. Presuppositions of the Scientific Method. The General Aims and Methods of Science. Functional Organization among Natural Phenomena. The Control of Psychological Variables. Some Facts and Principles of Psychological Measurements. Steps of the Scientific Method. The Definition and Delimitation of a Scientific Problem. The Use of Hypotheses in Formulating a Problem. Collecting the Facts. The Organization, Analysis, and Interpretation of Facts. Generalizing from Scientific Data. Some Individual Scientific Procedures. Physical Variables in Psychological Experiments. The Subject in Psychological Experiments. Some Procedures for Quantifying Behavior. Scientific Method in Field-type Studies. Index.

BUCKNER AND McGRATH—Vigilance

A Symposium

Edited by DONALD N. BUCKNER, and JAMES J. McGRATH, Human Factors Research, Incorporated.

269 *pp.*, 6 *x* 9, 63 *illus.* (1963).....$8.95*r*

This book is intended to document an intensive examination made by the leading investigators of human vigilance into the factors that govern man's ability to remain alert. It presents recent experimental findings, explores various theoretical points of view, and identifies and discusses the major problems in this field of research. Because of the nature of the subject and the manner in which the investigation has been conducted, this book is equally valuable in industry, governmental agencies, and research or graduate work in psychology and psychiatry.

CONTENTS—RECENT RESEARCH. James J. McGrath. Paul Bakan, John A. Belton, John C. Toth, Harry J. Jerison, John F. Wing, C. H. Baker, Donald N. Buckner, D. E. Broadbent, Paul Bakan, Albert Harabedian. METHOD AND THEORY. C. H. Baker, Donald N. Buckner, D. E. Broadbent, Harry J. Jerison.

COFER—Verbal Learning and Verbal Behavior

Edited by CHARLES N. COFER, University of California at Berkeley. *Series in Psych.*

241 *pp.*, 6 *x* 9, *illus.* (1961).....$6.50*c*

Records the proceedings of the Conference on Verbal Learning and Verbal Behavior under the auspices of New York University and the Office of Naval Research, where a group of outstanding scholars met to consider problems of theory, issue and method. Seven assigned papers, prepared and distributed in advance, were discussed at the conference. Each paper had a discussant who presided over the session concerned with the paper he was assigned to discuss. This text presents the seven papers together with a paper prepared by its discussant, followed by a summary of the conference discussion. These summaries outline the major issues that arose and give the comments made on each.

CONTENTS—Introduction and Summary. From the Isolated Unit to Connected Discourse (J. Deese). Discussion of Professor Deese's Paper (C. N. Cofer). Summary of Conference Discussion. Acquisition and Use of Conceptual Schemes (A. E. Goss). Discussion of Professor Goss's Paper (J. J. Jenkins). The Problem of Meaning in Verbal Learning (W. A. Bousfield). Discussion of Professor Bousfield's Paper (C. E. Osgood). Summary of Conference Discussion. Assessment vs. Experimental Acquisition of Verbal Habits (W. A. Russell). Discussion of Professor Russell's Paper (G. Mandler). Verbal Learning and Individual Differences (C. E. Noble). Discussion of Professor Noble's Paper (J. J. Jenkins). The Present Status of Interference Theory (L. Postman). Discussion of Professor Postman's Paper (A. W. Melton). Summary of Conference Discussion. An Evaluation of the Gibson Theory of Verbal Learning (B. J. Underwood). Discussion of Professor Underwood's Paper (C. E. Noble). Summary of Conference Discussion. Commentary. Index.

COFER AND MUSGRAVE—Verbal Behavior and Learning

Problems and Processes

Edited by CHARLES N. COFER, University of California; and BARBARA S. MUSGRAVE, Smith College. *Series in Psych.*

398 *pp.*, 6 *x* 9, 52 *illus.* (1963).....$8.50*c*

This volume represents the proceedings of the Second Conference on Verbal Learning held under the auspices of the Office of Naval Research and New York University in June, 1961. Each chapter is broken into three parts: presentation of paper; discussion of paper (prepared by one member); summary of the conference discussion of the paper. A final chapter presents a commentary on the conference results. Most of the contributors also appeared in the book developed from the first conference, VERBAL LEARNING AND VERBAL BEHAVIOR. This book contains one more chapter than the previous volume, and is broader in scope, covering many sub-areas of the field. Both books offer reviews and theoretical material for advanced students and professional psychologists.

CRAFTS, SCHNEIRLA, ROBINSON, AND GILBERT—Recent Experiments in Psychology

By LELAND W. CRAFTS, New York University, THEODORE C. SCHNEIRLA, American Museum of Natural History, ELSA E. ROBINSON and RALPH W. GILBERT, New York University. *Series in Psych.* Second Edition.

503 *pp.*, 6 *x* 9, *illus.* (1950)

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Demonstrates the nature of psychological experimentation, the character of its particular problems, and its procedures for coping with them. Provides a wealth of original, strictly contemporary material. Experiments, as shown in contents listed below, cover many and varied topics.

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HIRSH—The Measurement of Hearing
By IRA J. HIRSH, Central Institute for the Deaf and Washington University School of Medicine. *Series in Psych.*
853 *pp.*, 6 *x* 9, *illus.* (1961).....$8.50*c*
This outstanding work brings together basic experimental information about acoustics, electro-acoustic equipment, psychology of hearing, and other related topics, and applies this information to various aspects of the measurement of hearing. Written from the point of view of the experimental psychologist, the book is designed for clinical otologists, acoustics or communications engineers, and others who are engaged in experimental work on hearing.
CONTENTS—Foreword by Hallowell Davis. Introduction. Sensation and Measurement. The Auditory Stimulus: Sound and Electricity. Electroacoustic Systems. Absolute Threshold for Pure Tones: The Audiogram. The Intelligibility of Speech. Auditory Masking and Fatigue. Differential Sensitivity. Loudness and Recruitment. Binaural Hearing and Bone Conduction. Conditioning in Audiometry. Clinical Audiometry. Appendix A: Specifications for Audiometers. Appendix B: Speech Materials for Auditory Tests. Glossary. Bibliography. Name Index. Subject Index.

LEWIS—Quantitative Methods in Psychology
By DON LEWIS, State University of Iowa. *Series in Psych.*
558 *pp.*, 6 *x* 9 (1960).....$9.50*c*
Provides a comprehensive survey of the quantitative and statistical procedures basic to the utilization of mathematical functions in describing empirical relationships and in developing theoretical schema for behavior. The book covers variables and functional relationships; curve-fitting methods; analysis and synthesis of functions through applications of the calculus; derivations of the familiar distribution functions underlying statistical tests of goodness of fit of trend lines and of differences between them; and applications of equations in scientific inquiry.
CONTENTS—Preface. Variables, Constants, and Functional Relationships. Linear Functions. Logarithms and Logarithmic Scales. Complex Functions. Differentiation. Integration. The Normal Curve. Binomial and Poisson Distribution Functions. The x^2, t, and F. Distribution Functions. Goodness of Fit and Trend Differences. Applications of Equations. List of Basic References. Name Index. Subject Index.

MAIER AND SCHNEIRLA—Principles of Animal Psychology
By N. R. F. MAIER, University of Michigan, and T. C. SCHNEIRLA, Department of Animal Behavior, American Museum of Natural History. *Series in Psych.*
529 *pp.*, 6 *x* 9, 107 *illus.* (1935).....$7.95*c*
This book reinterprets and systematizes the varied behavior data of animals below man in an attempt to organize the evidence into a consistent psychological theory.
CONTENTS—Part I. PRINCIPLES DISCERNIBLE IN THE BEHAVIOR OF INFRAMMALIAN ANIMALS. Fundamental Characteristics of Behavior: Plants and Protista. First Problems in the Behavior of Multicellular Animals. A Transition Stage in Specialization and in Behavior Control: Phylum Echinodermata. New and Significant Advances in Adaptation: The Worms. Advances in the Complexity and Variability of Behavior: Phylum Mollusca. Basic Activities in the Phylum Arthropoda. Some Characteristic Activities of Higher Arthropods and the Role of Modifiability. Basic Features of Vertebrate Behavior: Class Pisces. Improved Integration in the Control of Stereotyped Activities: Class Amphibia. Modifiability and the Partial Alteration of Directly Determined Behavior: Class Reptilia. Modifiability in a Complex Repertoire of Directly Determined Activities: Class Aves. Part II. PREREQUISITES TO BEHAVIOR DOMINATED BY MODIFIABILITY. Natively Determined Behavior. The Differential Reaction to Stimuli. Neural Mechanisms in Behavior. Part III. THE NATURE OF MODIFICATION IN BEHAVIOR: CLASS MAMMALIA. Introduction to the Problem of Learning. The Specific Patterns Learned in Various Learning Situations. The Analysis of Maze Learning. Factors Determining Performance in Learning Situations. Factors Affecting the Mastery of a Task and Their Relation to Learning. Higher Mental Processes.

McCORMICK—Human Engineering
By ERNEST J. MCCORMICK, Purdue University.
467 *pp.*, 6 *x* 9, 190 *illus.* (1957).....$8.50*c*
Written primarily for engineers and managerial personnel, this practical, nontechnical, well-illustrated and thoroughly documented book summarizes and interprets recent research in human engineering. It provides the reader with a basis for understanding the "whys" of such principles and practices, instead of merely providing ready-made answers to design problems. Helpful summaries are included for each chapter.
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MILLER—Language and Communication
By GEORGE A. MILLER, Harvard University. *Series in Psych.*
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CONTENTS—Preface. Foreword to the Teacher. By Way of Introduction. The Phonetic Approach. The Perception of Speech. The Statistical Approach. Rules for Using Symbols. Individual Differences. The Verbal Behavior of Children. The Role of Learning. Verbal Habits. Some Effects of Verbal Habits. Words, Sets, and Thoughts. The Social Approach. Bibliography. Index.

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MORGAN, COOK, CHAPANIS AND LUND—Human Engineering Guide to Equipment Design
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TOWNSEND—Introduction to Experimental Method
For Psychology and the Social Sciences
By JOHN C. TOWNSEND, The Catholic University of America. *Series in Psych.*
220 *pp.*, 6 *x* 9, 65 *illus.* (1953)
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A concise text designed to introduce beginning students in psychology to the theory and techniques of the scientific method: design of experiments, use of equipment, interpretation of results, and application of statistical tools.
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VINACKE—The Psychology of Thinking
By W. EDGAR VINACKE, University of Hawaii. *Series in Psych.*
367 *pp.*, 6 *x* 9, 15 *illus.* (1952).....$7.50*c*
This modern treatment surveys the phenomena of human thinking, formulates basic problems, and clarifies current research on the subject. The book presents a theoretical framework for understanding mental processes, and defines methods, problems, working hypotheses, and tentatively substantiated conclusions. Covers broadly available research on topics pertinent to human thinking, but emphasizes experiments with human, normal subjects. Historical and theoretical background, reasoning, imagination, and personalized thinking are featured.
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VON BEKESY—Experiments in Hearing
By GEORG VON BEKESY, Harvard University. Translated and Edited by E. G. WEVER. *Series in Psych.*
745 *pp.*, 6 *x* 9 (1960).....$25.00*c*
The chief results of 34 years of experimental studies on hearing and related problems by an eminent international psychologist and physicist. This volume contains most of the author's papers which were previously published in various technical journals during the last 30 years. It contains a large number of new methods for measurements; all the details of the methods, their difficulties and limitations are given.
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WINER—Statistical Principles in Experimental Design
By BENJAMIN J. WINER, Purdue University. *Series in Psych.*
682 *pp.*, 6 *x* 9, 35 *illus.* (1962)....$12.50*c*
Provides a text and a comprehensive reference source on experimental design. Considers designs found in the current experimental literature, and also examines neglected designs having unique and potentially useful features. Advantages and disadvantages of both classes of designs are studied in detail. Mathematical proofs are not in general presented; however, the logic basic to such proofs is made explicit. The models, assumptions, and practical considerations underlying the conduct and analysis of experiments are clearly stated. Many designs not heretofore considered from the point of view of research in the behavioral sciences are presented for the first time in text form. New topics in the behavioral science include: trend analysis, balanced and partially balanced incomplete block designs, lattice designs, fractional replication. The book combines theory with practical applications in the behavioral sciences and yet maintains a readability level appropriate for students and research workers without extensive mathematical backgrounds.
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Social

BERKOWITZ—Aggression
A Social Psychological Analysis
By LEONARD BERKOWITZ, University of Wisconsin. *Series in Psych.*
384 *pp.*, 6 *x* 9, *illus.* (1962).....$7.95*c*

This book reviews the theoretical and research literature bearing on aggressive behavior. While the emphasis is on the actions of human beings in social settings, the book also summarizes the concepts of Freud and other psychoanalysts, and some of the revelant writings and research of ethologists, biologists, and experimental psychologists. The clinical and animal literature is employed primarily to establish a comprehensive coverage of factors affecting human aggressiveness. Most of the discussion deals with the behavior of human beings in interaction with other human beings. Relevant findings from the broad area of personality and social psychological research are employed in this discussion.

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SIEGEL AND FOURAKER—Bargaining and Group Decision Making

Experiments in Bilateral Monopoly

By SIDNEY SIEGEL, formerly Penn State Univ. and LAWRENCE E. FOURAKER, Harvard Graduate School of Business Administration.

132 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960).....$4.90*r*

The first experimental study of decision making under conditions of bilateral monopoly, the book reports a series of experimental studies of interest to economists, psychologists, and behavioral scientists in general. The book relies on the methods and theories of experimental social psychology to obtain more controlled conditions and precise measures in the study of group decisions under bilateral monopoly. The material is concerned with fundamental topics common to economic and psychological theory as they affect the situation of bargaining between two rivals. In particular, two important concepts are introduced: 1) a precise definition of panic 2) a bargaining model which incorporates level of aspiration and has some welfare implications.

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FOURAKER AND SIEGEL—Bargaining Behavior

By LAWRENCE E. FOURAKER, Harvard Graduate School of Business Administration; and SIDNEY SIEGEL, formerly Penn State Univ.

322 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963).....$8.95*c*

Reports the experiments which followed those recorded in *Bargaining Behavior and Group Decision Making*. The book combines psychological and economic approaches to the study of conflict of interests and its resolution. The uses of the experimental method in testing alternative hypotheses which are classical statements in economic theory are demonstrated. A series of studies examine bargaining behavior in a laboratory situation of bilateral monopoly with price leadership and in a laboratory situation of oligopoly.

KRECH, CRUTCHFIELD, AND BALLACHEY—Individual in Society

A Textbook of Social Psychology

By DAVID KRECH, RICHARD S. CRUTCHFIELD, and EGERTON L. BALLACHEY, University of California, Berkeley.

576 *pp.*, 6⅞ *x* 9¼, 79 *illus.* (1962)..$7.95*c*

This text brings together the most recent material of social psychology in a systematic reformulation of the field. A rethinking and complete rewriting of its widely acclaimed predecessor, it is a new text. Presenting, in so far as possible, man's knowledge of man in society, the authors integrate the facts, observations and speculations of social scientists representing the many different disciplines: cognitive psychologists, personality psychologists, social psychologists, anthropologists, sociologists. The authors organize these diverse materials into an effective teaching instrument in this book.

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185 *pp.*, 5⅝ *x* 8⅜, 24 *illus.* (1961)..$7.50*c*

This volume is intended as a survey and an introduction to the new and rapidly changing area that lies between the disciplines of economics and of industrial administration. The author concentrates on those topics possessing an essential unity with each other and with the traditional subject-matter of micro-economics: the logic of choice. Four chapters deal with linear programming, two with integer programming, and three with inventory models and sequential decision theory. Considerable stress is placed upon sensitivity analysis and the role played by implicit prices.

CONTENTS—Preface. Introduction. The Fundamentals of Resource Allocation. On Solving Linear Programming Problems. The Transportation Model. Marketing. Integer Programming. Sequencing Problems. Inventory Control. Dynamic Programming—Inventory Control. Cost and Value of Information. INDEX.

MORGAN, DAVID, COHEN, AND BRAZER —Income and Welfare in the United States

By JAMES N. MORGAN, University of Michigan; MARTIN H. DAVID, University of Wisconsin; WILBUR J. COHEN, University of Michigan; and HARVEY E. BRAZER, U. S. Treasury.

544 *pp.*, 6 *x* 9, 40 *illus.* (1962).....$7.95*c*

This study by the Survey Research Center of the University of Michigan Institute for Social Research combines demographic, economic, sociological and psychological factors to provide a detailed explanation of what determines the economic position of the family. It considers the effect on family income of past history, situational factors, education, and the actions and decisions of family members. Attitudes, personality measures, community, state, regional, and religious influences are examined. Finally, each variable is studied as part of the complex set of decisions which determine family income. The analysis displays the role of each datum in relation to other relevant data—and the approach has been simplified in a new tabular format.

CONTENTS—INCOME, WELFARE, AND PUBLIC POLICY—Income, Welfare, and Public Policy—A Summary and Some Implications. DETERMINANTS OF FAMILY INCOME. Previous Work and Background. A Conceptual Framework to Explain Family Income. Labor Force Participation of Spending Unit Heads. Hourly Earnings of Spending Unit Heads. Hours Worked by Spending Unit Heads. Capital Income. Home Production as a Source of Income. Labor Force Participation of Wives. Hourly Earnings of Working Wives. Hours Worked by Working Wives. Additional Components of Spending Units' Earnings. Transfer Income and Attitudes toward Transfers. The Economics of Living with Relatives. Summary of Income Analyses. THE LOW INCOME POPULATION. Poverty in the United States. The Economic Position of the Disabled. DISTRIBUTION AND REDISTRIBUTION OF INCOME AND WELFARE. Voluntarism and Philanthropy. Property Taxes and the Benefits of Public Education. Income Inequality: The Effect of Unit of Analysis and Measure of Income. Time: The Third Dimension of Welfare. THE DYNAMICS OF SOCIAL AND ECONOMIC CHANGE. Patterns of Change and Their Interrelationships. The Impact of Education on Careers. The Transmission of Education from Fathers to Spending Unit Heads. The Transmission of Education from Spending Unit Heads to Their Children. EDUCATIONAL EXPECTATIONS AND ATTITUDES. Parents' Aspirations for Educating Their Children. Some Implications for the Demand for Education. Plans for Sending Children to College. Attitudes toward Public Support of Higher Education. OTHER PLANS FOR THE FUTURE. Planning for the Future and the Family's Finances. Planning for Retirement. Future Research Needs.

TINBERGEN AND BOS—Mathematical Models of Economic Growth

By JAN TINBERGEN and H. C. Bos, both of the Netherlands. Economic Institute, Rotterdam. *Econ. Hdbk. Series.*

144 *pp.*, 6 *x* 9, 3 *illus.* (1962).....$6.90*c*

Quantitative in orientation, the book presents a number of developmental models in simple mathematical form. The emphasis is on the economic significance of the subject matter, and for instructive reasons, a number of topics are presented in their simplest form. The models are presented in order of increasing complexity, to serve an instructive end and are selected according to a) practical applicability in planning for underdeveloped countries and b) significance of some important problems around development planning. This book is suitable for graduate courses in developmental planning mathematical economics and economic and monetary policy.

CONTENTS—Foreword. INTRODUCTORY; USE OF MATHEMATICAL MODELS: Aims and Means of Development Policies; Mathematical Models as a Hard Core of Programming; Conditions of Practical Applicability; Successive Approximations as a Method; Main Elements of Models; Arrangement of Subject Matter. ONE SCARCE FACTOR; ONE SECTOR: Macromodel, No Gestation Lag, No Depreciation; Macromodel, No Gestation Lag, with Depreciation and Replacement; Macromodel with Gestation Lags, No Depreciation; The Optimum Rate of Development. SEVERAL SCARCE FACTORS; ONE SECTOR: Population-Capital-Technical-Change Models. Continuous Substitution between Factors: Models with Various Types of Technological Change; Models with Accounting Prices; Models with Restricted Substitution between Factors; The Role of Aims in the Design of Policy. SEVERAL SECTORS; FIXED PRICES; NO SUBSTITUTION: Models without Interindustry Deliveries; Closed Economy, One Capital Good; Models with Second-order Capital Goods; Open Economy, One Capital Good; Input-output Models with Uniform Lags, One Capital Good; Input-output Models with Uniform Lags, Several Capital Goods; Input-output Models with Different Lags; Input-output Models with Variable Coefficients. SEVERAL SECTORS; FIXED PRICES; SUBSTITUTION: Model with Substitution between Factors; Open-economy Models; Models with a Structural Break; Models with Increasing Marginal Costs; Indivisibilities; Nonlinear Partial Models. SEVERAL SECTORS; VARIABLE PRICES: Two-sector Model for Terms of Trade; Open-economy Input-output Model with World-demand Equations; Nonlinear Cost Functions; Other Demand Functions; Alternative Techniques, A Linear Programming Model. SEVERAL SECTORS AND SEVERAL REGIONS: Rigid Distribution of Inputs over Sectors of Origin; Transportation Costs Neglected, Prices Varying between Regions; Static Models with Transportation Costs. Development Model with Transportation Costs; SOME CRITICAL AND CONCLUDING REMARKS: Some Critical Remarks on the Present State of the Discipline; Some Practical Suggestions. Appendix—Symbols Used. Bibliography. Index.

HOOVER—The Location of Economic Activity

By E. M. HOOVER, Council of Economic Advisers, Washington, D. C. *Econ. Hdbk. Series.*

310 *pp.*, 6 *x* 9, 45 *illus.* (1948).....$6.50*c*
*McG-H Paperbacks Ed.**

Discusses the economics of industry location, land utilization, urban structure, and regional development. It is primarily analytical rather than descriptive, devoting particular attention to problems of locational change and adjustment, and emphasizes the objectives, methods, and implications of policies of public control.

CONTENTS—Preface. Editor's Introduction. Introduction. Part One: Locational Preferences and Patterns. The Structure of Transfer Costs. Transfer Costs and the Location of the Individual Producer. Transfer Costs and Industry Patterns. Processing Costs and the Location of the Individual Producer. Land-use Competition, Location and the Labor Market. The Economic Structure of Communities. Part Two: Locational Change and Adjustment. The Process of Locational Change. Technology and Locational Change. Locational Adjustment and Problem Areas. Part Three: The Locational Significance of Boundaries. Political Boundaries as Barriers to Factor Movement, Payments, and Coordinated Area Administration. Part Four: Locational Objectives and Public Policy. The Sphere of Public Responsibility and Control. The Tools of Public Policy. Policies for Locational Flexibility. Locational Stability and Balance. National Security and Power. Appendix. Select Bibliography. Index.

* *Available only through your local bookstore.*

JOHNSTON—Statistical Cost Analysis

By JOHN JOHNSTON, University of Manchester, England. *Econ. Hdbk. Series.*

197 *pp.*, 6 *x* 9, 36 *illus.* (1960).....$6.95*c*

Designed for professional economists, business economists, and students taking graduate level courses in economic theory. This book is not intended as a classroom text, but rather as a reference volume for courses on economic theory, the theory of the firm, operations re-

search, business economics, hypotheses, fluctuating costs of production and rate of output, and the scale of a firm's operations. It discusses the problems involved in the statistical estimation and testing of these relationships, covering main empirical studies and controversies in this field during the past 25 years. The treatment emphasizes the practical testing of theoretical ideas about cost-output relations, using accounting data drawn from the actual operations of real firms.

CONTENTS—Introduction. Theoretical Hypotheses about the Relationships between Costs and Output. Problems of Statistical Estimation and Procedure. Empirical Results: Electricity Generation; Road Passenger Transport; Multiple Product Food-processing Firm; Costs in Coal Mining; Building Societies; Life Assurance Companies; Labor Productivity and Size of Establishment. A Summary of the Empirical Evidence. A Critique of the Critics.

KOOPMANS—Three Essays on the State of Economic Science

By TJALLING C. KOOPMANS, Yale University.

231 *pp.*, 6 *x* 9, 41 *illus.* (1957).....$6.95*c*

Three brilliant essays by one of the world's foremost economists. Here are Koopman's explanations of some recent developments in economic theory, his comments and perplexities about the character and basis of economic knowledge, and his intuitions about possible directions of future work in theory and in empirical investigations.

CONTENTS—Preface. Allocation of Resources and the Price System. The Construction of Economic Knowledge. The Interaction of Tools and Problems in Economics. Index.

LERNER—Economics of Employment

By ABBA P. LERNER, Michigan State University. *Econ. Hdbk. Series.*

397 *pp.*, 6 *x* 9, *illus.* (1951).....$6.75*c*
*McG-H Paperbacks Ed.**

Designed for the informed layman as well as the beginning student of economics, this book describes in non-technical language the manner in which the level of employment is determined in a modern society. It provides a lucid, elementary account of Keynesian economics. The author deals with the components of income, consumption, and investment, and with their relationships; the determinants of income and notable, the rate of interest, and the marginal efficiency of capital; the relation of money and the rate of interest, of the latter and savings; and the international aspects of Keynesian economics. Political aspects of the economic problems are kept in mind throughout.

CONTENTS—PART I—THE PROBLEM. PART II—THE SOLUTION. PART III—THE RESISTANCES. PART IV—FULL EMPLOYMENT AND INFLATION. PART V—A CLOSER VIEW OF FUNCTIONAL FINANCE. PART VI—INTERNATIONAL ASPECTS. PART VII—CONCLUSION. INDEX.

** Available only through your local bookstore.*

POWELSON—National Income and Flow-of-Funds Analysis

By JOHN P. POWELSON, The Johns Hopkins University.

550 *pp.*, 6 *x* 9, *illus.* (1960).....$8.95*i*

Starting with a simple model economy of one product, one producer, and one factor of production, the author gradually introduces the complexities of modern economic life. The second part treats traditional income analysis but develops a new way of teaching the multiplier, equilibrium, and the acceleration principle. Part Three introduces the flow-of-funds accounts, relating them conceptually to the national product system and describing the financial processes by which one sector's saving becomes available for other sectors' investment or dissaving. Part Four develops a series of model accounts in which problems of both developed and underdeveloped economies are illustrated. It brings out important facets of the Keynesian theory of equilibrium, the manner in which inflation unfolds, economic growth and depressions, real income and its distribution, and other economic events.

CONTENTS—NATIONAL INCOME ACCOUNTING. Economic Objectives and Economic Accounting. The National Income and Product Account. Capital Goods and Business Saving. The Government Account. Foreign Trade. National Product Accounts of the U.S. NATIONAL INCOME ANALYSIS. Models and Multipliers. Models and Multipliers (continued). The Consumption Function. The Acceleration Principle. FLOW-OF-FUNDS ACCOUNTING. Sources and Uses of Funds. The Monetary System. The Monetary System (continued). Flow-of-Funds Accounts of the U.S. ECONOMIC OBJECTIVES AND POLICY. The Strategic Role of Investment. Inflation. Inflation (continued). Real Income and Product. Income Distribution During Inflation. Productivity. Internal and External Equilibrium. Economic Policy.

ROSS—Income

Analysis and Policy

By MYRON H. ROSS, Western Michigan University.

In Press

This comprehensive text is written for the standard undergraduate course usually entitled "Income Analysis," "Intermediate Economic Theory," "National Income Analysis," or "Macro-economics." It may serve as a supplement for courses such as "Money and Banking," "Business Cycles," and "Economic Development." The orientation of the book is toward macro-economic theory and its policy implications. It develops the problem of public policy in detail, and stresses the complexity and difficulty of applying policy. Emphasis is placed on the conflict of goals and on the fact that economists must pay closer attention to political processes if economic policy is to be a workable instrument.

RUGGLES AND RUGGLES—National Income Accounts and Income Analysis

By RICHARD RUGGLES, Yale University, and NANCY D. RUGGLES, Econometric Society. Second Edition.

458 *pp.*, 6 *x* 9, 49 *illus.* (1956).....$7.50*c*

Gives the reader insight into the rationale and use of national income statistics for the purpose of economic analysis. The material is organized around the concepts of national income accounting and the theory of income analysis. A five sector system (producers, consumers, government, foreign trade, and the capital sector) is developed. The five sector accounts are utilized to present both a graphical and an accounting approach to the theory of income equilibrium and employment.

CONTENTS—NATIONAL INCOME ACCOUNTS. National Income Accounts and Their Relation to Economic Policy. Production in a Modern Exchange Economy. The Function of Accounts in the Productive Unit. Appendix. Production Statements for the Firm and for the Economy. Appendix. A System of National Income Accounts for the Economy. Appendix. National Income Aggregates and Their Meaning. The Use of National Income Aggregates for Comparative Analysis. Appendix. Sources and Methods of Computing United States National Income Accounting Statistics. Appendix. Related Systems of Economic Accounting. INCOME ANALYSIS. The Economic Setting of the Problem. The United States Economy in Operation, 1929 to 1954. The Basic Concepts of Income Analysis. The Mechanism of Income Analysis I: Consumers' Expenditures and Disposable Income. The Mechanism of Income Analysis II: Disposable Income and Gross National Product. The Mechanism of In-

come Analysis III: Investment Expenditures, Government Expenditures, and Foreign Trade. The Nature of Equilibrium and Full Employment. Economic Policy and the Level of Economic Activity. Index.

THORP AND QUANDT—The New Inflation
By WILLARD L. THORP, Amherst College, and RICHARD E. QUANDT, Princeton University.
233 *pp.*, 5⅜ *x* 8 (1959).....$5.50*t*
A penetrating analysis and assessment of the inflationary forces in the American economy and what can be done about them. Concerned especially with the unusual events of the 1957–58 recession—when prices continued to rise despite decreases in both production and employment—it utilizes the fruits of a conference of 23 leading economists at the Merrill Center for Economics as well as recent material gathered by the Joint Economic Committee of Congress. The book applies modern economic analysis to the American economy in terms of the balance of income against consumption and saving, and discusses the relationship of various suggested theories of inflation to production, prices, and employment. It goes beyond the so-called aggregative analysis to consider possible difficulties created for us by structural pressures and rigidities, as well as psychological factors. It takes up such questions as: will prices keep rising in the next decade? what is the cause of this? how much of it is unhealthy? can we predict a forthcoming downturn? what policies can the government follow, and with what results? what will they mean to businessmen, investors, and wage earners?
CONTENTS—A Look at the Record. Money Supply and the Urge to Spend. Income Claims and Structural Pressures. Checks and Balances. Growth, Productivity, and Inflation. The International Aspects of Inflation. Monetary Policy. Fiscal and Other Policies. The Policy Choices. The Outlook.

Econometrics

JOHNSTON—Econometric Methods
By J. JOHNSTON, University of Manchester.
320 *pp.*, 6 *x* 9, *illus.* (1963).....$7.50*c*
This text provides a complete treatment of all recent developments in the field, emphasizing the rationale of the various estimating methods and their practical application to specific problems. Assuming only one year's work in statistical theory and methods, the book begins at an elementary level and gradually expands in scope and rigor to provide the reader with a clear appreciation of: 1) the assumptions underlying the various techniques and the situations in which particular techniques are most appropriate; 2) *how* to apply the various techniques in practice; and 3) the likely properties of estimates yielded by particular techniques. Matrix algebra is used as the main method of exposition throughout the book.
CONTENTS—THE LINEAR NORMAL REGRESSION MODEL. The Two-variable Linear Model. Extensions of the Two-variable Linear Model. Elements of Matrix Algebra. The General Linear Model. THE THEORY OF ECONOMETRICS. Introduction to the Theory of Econometrics. Errors in Variables. Autocorrelation. Miscellaneous Single-equation Problems. Simultaneous-equation Problems: I. Simultaneous-equation Problems: II.

VALAVANIS—Econometrics
An Introduction to Maximum Likelihood Methods
By STEFAN VALAVANIS, Harvard University, 1956 to 1958. Edited, from Manuscript, by Alfred H. Conrad, Harvard University. *Econ. Hdbk. Series.*
223 *pp.*, 6 *x* 9, 25 *illus.* (1959).....$7.95*r*
In this text the author provides a short introduction to econometrics—the techniques by which economic theories are brought into contact with the facts. Within the field of econometrics, the book is especially addressed to problems of estimation, and its orientation is always toward the strategy of research. The maximum likelihood and limited information techniques are developed from fundamental assumptions and criteria, and are demonstrated by example.
CONTENTS—The Fundamental Proposition of Econometrics. Estimating Criteria, and the Method of Least Squares. Bias in Models of Decay. Pitfalls of Simultaneous Interdependence. Many-equation Linear Models. Identification. Instrumental Variables. Limited Information. The Family of Simultaneous Estimating Techniques. Searching for Hypotheses and Testing Them. Unspecified Factors. Time Series. APPENDIXES. INDEX.

History of Economic Thought

HANSEN—Monetary Theory and Fiscal Policy
By ALVIN H. HANSEN, Professor Emeritus, Michigan State University. *Econ. Hdbk. Series.*
236 *pp.*, 6 *x* 9, 23 *illus.* (1949).....$5.95*c*
*McG-H Paperbacks Ed.**
While essentially theoretical, the book contains much historical material and deals with trends and developments with respect to the money supply, national income, public debt management and fiscal policy, and the role of the central banking system in the control and creation of money.
CONTENTS—The Historical Ratio of Money to Income. The Creation of Money. The Quantity Theory and the Marshallian Version. Appendix: Hume and the Quantity Theory. Liquidity Preference. Investment and Consumption. Income and the Rate of Interest. Appendix: A Note on Savings and Investment. The Income Theory: Tooke, Wicksell, Aftalion, Keynes. Cost Functions and Prices. Wages and Prices. The Keynesian Theory of Money and Prices. Historical View of Prices: Factors Making for Stability. Monetary and Fiscal Policy in Post-War Inflation. The Role of Money in Fiscal Policy. A Managed Compensatory Fiscal Program. Monetary Expansion and National Income. International Monetary Developments.
** Available only through your local bookstore.*

TAYLOR—A History of Economic Thought
By OVERTON TAYLOR, Harvard University. *Econ. Hdbk. Series.*
524 *pp.*, 6 *x* 9, *illus.* (1960).....$8.50*c*
This unique textbook is particularly concerned with the types of political and economic thought evolved in the laissez-faire liberal, Marxist, and other socialist and modern-interventionist-liberal traditions from the mid-eighteenth to the mid-twentieth century. Among the writers considered are Smith, Bentham, Malthus, Ricardo, Mill, Marx, Marshall, and Keynes. However, attention is confined to their crucial theories and those later assimilated into other systems. In addition, the author's broad view of economic thought ties in the broader social philosophies of great political economists and also deals with allied developments of political thought.
CONTENTS—THE EIGHTEENTH CENTURY—LOCKE AND NEWTON—THE NATURAL ORDER AND THE PHYSIOCRATS. ADAM SMITH'S FORERUNNERS IN MORAL PHILOSOPHY. ADAM SMITH'S PHILOSOPHY OF SCIENCE AND THEORY OF SOCIAL PSYCHOLOGY AND ETHICS. ADAM SMITH'S IDEAL AND THEORY OF THE SELF-ADJUSTING LIBERAL ECONOMY. BENTHAMISM. MALTHUS: POPULATION GROWTH AND POVERTY AND CLASSICAL ECONOMICS. RICARDO: INTRODUCTORY. RICARDO: THE RICARDIAN THEORY OF EXCHANGE VALUES, INCOME SHARES, AND ECONOMIC GROWTH, AND THE UNDERCONSUMPTION HERESY. JOHN STUART MILL: PHILOSOPHY, ETHICS, POLITICS, AND LOGIC. JOHN STUART MILL: ECONOMICS AND POLITICAL ECONOMY. KARL MARX AND HIS INTELLECTUAL SYSTEM: ITS SOCIALIST, HEGELIAN, AND RICARDIAN ELEMENTS.

VICTORIAN CONSERVATIVE LIBERALISM AND NEO-CLASSICAL ECONOMICS. MARSHALLIAN ECONOMICS. FROM THE LAST HEYDAY OF THE CLASSICAL LIBERALISM TO THE MID-TWENTIETH CENTURY WORLD'S IDEOLOGIES, REGIMES, AND CONFLICTS: COMMUNISM AND FASCISM. THE MID-TWENTIETH CENTURY WORLD'S IDEOLOGIES, REGIMES, AND CONFLICTS: DEMOCRATIC SOCIALISM AND INTERVENTIONIST LIBERALISM. RECENT DEVELOPMENTS OF NEW ECONOMIC THEORIES RELEVANT TO PROBLEMS OF PUBLIC POLICY: A NEW ANALYSIS OF COMPETITION AND MONOPOLY. RECENT DEVELOPMENTS OF NEW ECONOMIC THEORIES RELEVANT TO PROBLEMS OF PUBLIC POLICY: KEYNESIAN ECONOMICS.

Money and Banking

HAINES—Money, Prices and Policy

By WALTER W. HAINES, Peshawar University, Pakistan.

780 *pp.*, 6 *x* 9, 88 *illus.* (1961).....$8.50*c*

A money and banking textbook prepared as an introduction to the role money plays in a modern economy and its effects on the national income and standard of living. Four major themes—history, institutions, theory and policy—are developed comprehensively. With chapter selection the book can be used in a one semester course, but the wide coverage provides ample material for a full year course.

CONTENTS—Money and Its Development. Commercial Banking. Central Banking. The Financial Marketplace. Monetary Systems. Monetary Theory. National Income Theory. Monetary Policy. International Monetary Relations. Conclusion.

MARKS AND COLEMAN—Cases in Commercial Bank Management

By LEONARD MARKS, JR., Stanford University; and ALAN B. COLEMAN, Stanford University.

416 *pp.*, 6 *x* 9, 33 *illus.* (1962).....$7.95*c*

Emphasizing bank management, the 50 case problems present real situations confronting bank managers. Topics covered are commercial banking functions and responsibilities, except trust activities. The case studies introduce the art of banking and broad problems of commercial bank management, including organization and determination of operating policies and objectives, and specific bank management. The last section contains a series of cases dealing with general management problems and strategy considerations in growth and diversification. All cases have been written in the past six years and are drawn from commercial banks throughout the United States.

CONTENTS—Preface. Introduction to Commercial Bank Management. Managing Reserves. Credit Information and Analysis. Unsecured Loans. Secured Loans. Term Loans. Special Loan Problems. Consumer Loans. Bank Services and Public Relations. General Management Policies and Problems. Index.

ROBINSON—The Management of Bank Funds

By ROLAND I. ROBINSON, Massachusetts Institute of Technology. Second Edition.

464 *pp.*, 6 *x* 9, 22 *illus.* (1962).....$7.95*c*

The purpose of this book is to deal with the central managerial problems of any commercial bank: to manage its funds profitably but with adequate liquidity. Commercial banks stand apart from all other financial institutions in the extreme degree of liquidity expected of them. At the same time to attract and hold depositing customers they are required to offer a wide range of quite costly services. Resolution of the conflicting requirements of adequate liquidity and of profitability is the core managerial problem of commercial banks. This book provides a general philosophy for the resolution of these two conflicting requirements. The point of view is that of the top management in banks.

CONTENTS—Preface. The Business of Banking. Economic Environment in Which Banking System Operates. The Individual Bank in the Banking System. General Liquidity Policies. Day-to-Day Management of the Money Position. Working Secondary Reserves. Secondary Reserves for Remoter Contingencies. General Loan Policies. Credit Analysis. Supervision, Budgeting, and Handling Distressed Loans. The Rate of Interest Charged on Loans. Working Capital Loans. Secured Business Loans. Term Loans. Bank Credit to and for Consumers. Lending on the Security of Real Estate. Lending to Farmers. General Investment Practices and Policies. Investment Policy: Maturity and Yield. U.S. Government Securities. Tax-Exempt Securities. The Determinants of Bank Profits. The Uses of Bank Profits. Index.

ROBINSON—Money and Capital Markets

By ROLAND I. ROBINSON, Massachusetts Institute of Technology.

In Press

A significant contribution to existing finance and economic literature, and a new approach to this important area of study. The book asserts that money and capital markets are the focus of most contemporary financial and economic operations, such as the raising of money and its investment. It considers the interest rates determined by these markets are among the most important "prices" because they represent a cost to many and an income to others. The purpose of this volume, then, is to explain, analyze, and clarify the economic foundations on which money and capital market transactions are based. Since the approach is basically analytical, the book's contribution lies in the author's foundation for analysis, and in his discussion of the unity of markets as well as the common forces that extend from market to market.

CONTENTS—Economic Forces at Work in Money and Capital Markets. The Money Market. Capital Markets. The Dynamics of Money and Capital Markets. Bibliography.

TRESCOTT—Money, Banking, and Economic Welfare

By PAUL B. TRESCOTT, Kenyon College.

578 *pp.*, 6 *x* 9, *illus.* (1960).....$7.95*c*

This new contribution to the field analyzes the functioning of the monetary and financial system of the United States, emphasizing its effect on economic welfare. The section on monetary theory is the core of the book and focuses on the behavior of GNP expenditures and their relation to output, employment, and prices. The treatment incorporates such familiar concepts as the multiplier, marginal efficiency, and velocity of circulation. The theoretical analysis stresses the mutual determination of economic quantities in general—equilibrium fashion—and deals with expenditure flows over time as well as static equilibrium relations.

CONTENTS—INTRODUCTORY. The Nature and Functions of Money. Types and Evolution of Money. THE MONETARY SYSTEM OF THE UNITED STATES. Commercial Banks and the Monetary System. The Federal Reserve Banks and the Treasury. MONETARY THEORY. The Money Economy: A Descriptive Introduction. Introduction to Monetary Theory. Consumption, Investment, and Income Determination. The Money Supply, Cash Balances, and Interest Rates. Money, Spending, and Welfare: A Synthesis. THE WORLD OF FINANCE. Financial Institutions: Saving and Investment. Financial Institutions: Assets and Liabilities. INTERNATIONAL FINANCIAL RELATIONSHIPS. International Aspects of Money and Finance: Theory. The Evolving Patterns and Problems of International Finance. HISTORY OF MONEY AND MONETARY POLICY IN THE UNITED STATES. Monetary Developments Before the Civil War. Monetary and Banking Developments in the United States, 1861–1913. Monetary and Banking Developments in the United States, 1914–1940. Monetary and Banking Developments in the United States, 1941–1958. CONTEMPORARY PROBLEMS IN MONETARY POLICY. Objectives and Techniques of Monetary Policy. Effectiveness and Organization of Monetary Policy.

Business Cycles and Forecasting

BASSIE—Economic Forecasting
By V LEWIS BASSIE, University of Illinois.
692 *pp.*, 6 x 9, 89 *illus.* (1958).....$8.95*c*
Covering the entire field of economic and business forecasting, this book represents a distinct departure from others in the fields of business forecasting and dynamic economics. It adopts the dynamic approach of business forecasting, and from that standpoint applies the relevant findings of the most recent research in the field of economic relations and behavior. The book includes more new material than any other recent work in the field.
CONTENTS—Preface. THE ESSENTIALS OF FORECASTING. The Role of Judgment. Information for Forecasting Use. Methods of Projecting Statistical Series. Constructing Over-all Forecasts. EXPENDITURE-INCOME FLOW APPROACH. Strategic Points of Attack. Government Programs. Inventory Changes. The Foreign Sector. Private Construction. Producers' Plant and Equipment. Consumers' Durable Goods and Consumer Credit. Consumers' Expenditures and Saving. Integration and Consistency Checks. FREQUENTLY ENCOUNTERED PROBLEMS. Broad Questions of Public Policy. Commodity, Industry, and Area Forecasts. Problems of the Individual Firm. Forecasting for the Investor. APPENDIX A—INTERPOLATION Formulas for the Adjustment of Index Numbers. B—The Nature of Inventory Cycles. C—Factors Affecting Residential Construction. D—Investment in Plant and Equipment. Index.

BRATT—Business Forecasting
By ELMER C. BRATT, Lehigh University.
366 *pp.*, 6 x 9, 36 *illus.* (1958).....$7.95*c*
For the first time, forecasting methods actually used by different companies are brought together; integration is provided by contrasting analysis of the forecasting problems. Particular emphasis is placed on *objectivity*, because defense or depreciation of methods in use would fail to give the reader a faithful picture. Emphasis is placed on *assumptions*, since utility of the forecast depends on the plausibility of assumptions made. Several actual forecasts are presented, providing a visualization of forecasting methods made possible by direct relation to projections.
CONTENTS—Preface. The Forecasting Problem. Measurement of Total Expenditures. Forecasting the Growth of Total Industry. Forecasting the Growth of Major Expenditure Divisions. Forecasting Growth in Particular Industries. Indicators of Business Conditions. Short-term Forecasting of Aggregate Industry. The Commodity Price Forecast. Short-term Forecasting of Individual Industries. The Sales Forecast: Methods and Uses. The Sales Forecast: Company Practices. Forecasting Various Economic Processes. Checking the Adequacy of Forecasts. Bibliography. Index.

DUESENBERRY—Business Cycles and Economic Growth
By JAMES S. DUESENBERRY, Harvard University. *Econ. Hdbk. Series.*
341 *pp.*, 6 x 9, 11 *illus.* (1958).....$6.50*c*
Here the author gives a general explanation of the causes of the growth and fluctuation of income, making the explanation complex enough to account for the main facts of the movement of income and its components and simplifying his description of economic behavior as much as possible without distorting the picture. The theory of income movements given is intended to provide a basis for analysis of the impact of structural change on the movement of income.
CONTENTS—Editor's Introduction. Preface. Introduction. Keynes and the Classics. The Acceleration Principle. The Marginal Efficiency of Investment. Sources of Funds and the Cost of Capital. Oligopoly and Investment. Investment in Housing. Personal Saving and Consumption. An Income Generation Model. The Equilibrium Rate of Growth. Fluctuations in Income. Fluctuations Continued. Wages and Labor Supply. Money Supply, Interest Rates, and Availability or Credit. Summary and Conclusions. Index.

LEWIS—Business Conditions Analysis
By JOHN P. LEWIS, Indiana University.
602 *pp.*, 6 x 9 (1959).....$8.95*c*
Designed for the course that has replaced the old "Business Cycles" course, this book treats the applications of macroeconomic analysis to the diagnosis and prediction of domestic business conditions. The author's main purpose is to give the student a lively appreciation of the kinds of general economic analysis and forecasting practiced by "working economists" in business and government. The presentation of these analytical techniques is preceded by a systematic exposition of the social accounting and theoretical tools employed in such analysis and is augmented by discussion of some of the more significant problems facing the American economy during the coming generation.
CONTENTS—The Subject and the Book. SOCIAL ACCOUNTING. The General Architecture of National-income Accounting. The United States National-income System. More on Social Accounting. AGGREGATIVE ECONOMIC THEORY. Production, Employment, and Capacity—in a Growing Economy. Prices and Price-output Relationships. Demand and Income Determination: The Consumption-function Hypothesis. How Stable Is the Consumption-function? The Consequences of Investment. The Inducement to Invest. The Financing of Investment and the Role of Money. The Role of Government. A General Theory of Aggregative Economic Behavior: Conclusion. READING THE RECORD. The American Economy in Transition: The Thirties and Forties. The New Economy in the Fifties. SHORT RUN OUTLOOK ANALYSIS. General Forecasting Techniques. Commencing and Opportunistic Outlook Model. The Outlook for Government Spending. Forecasting Plant and Equipment Expenditures. The Demand for New Housing and Consumer Durables. Consumer Demand for Nondurables and Services. Inventory Investment and Order-sales-inventory Relationships. Completing a Short-run Forecast. LONGER RUN ISSUES. The Complexities of Long-term Prognosis. The Long-run Outlook for Prices and Pricing Practice. Selected Bibliography.

SCHUMPETER—Business Cycles
By JOSEPH A. SCHUMPETER. *Two Volumes (not sold separately).*
1095 *pp.*, 6 x 9 (1939).....$18.00*c*
An analysis of the causes and mechanism of business cycles together with a detailed discussion of historical and statistical material covering the past 150 years. These materials form a series of exercises in diagnosis of business situations and introduce viewpoints and methods relevant to present day problems.
CONTENTS—*Vol. I*—Introductory. Equilibrium and the Theoretical Norm of Economic Quantities. How the Economic System Generates Evolution. The Contours of Economic Evolution. Time Series and Their Normal Historical Outlines I: Introduction: 1787–1842. Historical Outlines II: 1843–1913. *Vol. II*—The Price Level. Physical Quantities. Employment. Prices and Quantities of Individual Commodities. Expenditures, Wages, Consumers' Balances. The Rate of Interest. The Central Market and the Stock Exchange. The World Crisis and After.

Business Economics

BARISH—Economic Analysis for Engineering and Managerial Decision Making
By NORMAN N. BARISH, New York University.
737 *pp.*, 6 x 9, 202 *illus.*.....$9.75*c*
This book discusses the premise that making decisions is the key function in engineering and business activity; and that most of the engineering and management decisions made in industry are, or should be, based upon economic analysis. It presents basic reasoning and methodology of various disciplines important in decision making: economics, accounting, probability and statistics, and operations research. The book is arranged to permit maximum flexibility in the choice of material and in the

sequence of class presentation, and to provide for its use in classes with students having different backgrounds.

CONTENTS—Preface. ENGINEERING AND BUSINESS DECISION-MAKING: Introduction. Objectives and Criteria for Engineering and Business Decisions. COSTS: The Costs of Operating an Enterprise. Cost Concepts for Decision-making. Interest and the Time Value of Money. Depreciation. Profits, Interest, and Return on Investment. Income Taxes. METHODS FOR TANGIBLE EVALUATION OF ALTERNATIVES: Annual-cost Comparisons. Present-worth and Premium-worth Comparisons. Determination of Rate of Return. Determinations of Equal Cost and Payout. CAPITAL MANAGEMENT: Capital Investment and Theory of Planning. The Enterprise's Assets and Sources of Funds. Sources of Future Capital Funds. Capital Planning and Budgeting. The Economy of Replacement and Retirement (Economic Life). DETERMINATIONS OF MINIMUM COST AND MAXIMUM PROFIT: Minimum-cost Functional Relationships. Programming for Minimum Cost or Maximum Profit. RISK, UNCERTAINTY, AND INTANGIBLES: Risk, Uncertainty, and Intangibles. Descriptive Statistics, Probability, and Expected Cost. Probability Distributions. Sampling and Confidence Limits. Model Building and Simulation. Simulating Risk (Monte Carlo Technique). Waiting-time (Queuing) Evaluations. Evaluating Intangibles. ELEMENTS OF ECONOMIC MEASUREMENT, ANALYSIS, AND FORECASTING: Economics of the Firm. Measures of Economic Activity. Time-series Analysis. Regression and Correlation Analysis. Econometric Models. Demand Analysis, and Sales Forecasting. Short-run Cost Relationships. Break-even Analysis for Profit Planning. Long-run Cost Variations (Scale of Operations). APPENDIX. TABLES. CHARTS. SELECTED BIBLIOGRAPHY. INDEX.

COPPOCK—Economics of the Business Firm

Economics of Decision Making in the Business Enterprise

By JOSEPH D. COPPOCK, Earlham College.

233 *pp.*, 6 *x* 9, 58 *illus.* (1959).....$7.50*c*

Providing a clear exposition of the parts of economic analysis which bear directly on the management of a business firm, this book is written from the point of view of the firm's administrators, rather than from that of the economist. After clarifying the aims and the function of the business firm in a free enterprise economy, the book takes up the "mechanics of profit maximization" under various demand and cost conditions, and then analyzes the determinants of demand for the firm's output and the determinants of cost of the firm's output. A final section considers problems of applying the economics of the firm to concrete situations.

CONTENTS—Preface. GENERAL CHARACTERISTICS OF THE BUSINESS FIRM. Nature and Aims of the Business Firm. Place of the Firm in Economic Organization. Tools of Analysis. Nature and Determinants of Profits. Summary of Part I. MECHANICS OF PROFIT MAXIMIZATION. Types of Demand-cost Situations. Mechanics of Profit Maximization: Fixed Costs Only. Mechanics of Profit Maximization: Variable Costs Only. Mechanics of Profit Maximization: Both Fixed and Variable Costs. Mechanics of Profit Maximization with Price Discrimination. Summary of Part II. DETERMINANTS OF DEMAND FOR THE FIRM'S PRODUCT. Forces Determining the Demand for the Firm's Product. The First Demand Determinant: Demand by Consumer-buyers. The First Demand Determinant (continued): Demand by Producer Buyers. The Second Demand Determinant: Number of Buyers and Sellers of the Product Sold by the Firm. The Third Demand Determinant: the Firm's Own Actions Affecting the Demand for Its Product. Methods of Estimating Demand. Summary of Part III. DETERMINANTS OF COST OF THE FIRM'S PRODUCT. Forces Determining the Cost of the Firm's Product. The First Cost Determinant: Technical Conditions of Production. The Second Cost Determinant: Prices of Inputs. Methods of Estimating Cost. Summary of Part IV. APPLICABILITY OF THE ECONOMICS OF THE BUSINESS FIRM. Applicability of the Economics of the Business Firm. Index.

DOYLE—Economics of Business Enterprise

By L. A. DOYLE, University of California, Berkeley, California.

335 *pp.*, 6 *x* 9, 62 *illus.* (1952).....$6.95*c*

Develops theoretical analyses required for price and output policy decisions on the part of the individual firm. Economic theory and business practice are carefully related.

CONTENTS—Preface. The Structure of the United States Enterprise System. The Objectives of the Economy. The Advantages and Limitations of "Pure" Competition. The Behavior of Market Demand—Incentives to Avoid Pure Competition. The General Nature of Market Demand. Competition and Restriction of Entry in Professional- and Personal-service Occupations. Factors Influencing the Price and Supply of Professional and Personal Services. Imperfect Competition among Small Enterprisers. Large-scale Operation—Advantages and Price-output Policies. The Costs of Distribution. The Methods and Advantages of Product Differentiation. The Marginal Analysis and Practical Business Operation. Standard Costs. Price and Output Decisions for the Multiproduct Firm. Price Fixing and Price Leadership. Transportation Costs and Pricing Policies. Price Discrimination. Management and Labor—Cooperation and Conflict. Introduction. The General Problem of Income Distribution. The Economics of Finance and Bankruptcy. Financial Problems of the Individual Firm. Conclusions. Index.

FENN—Managing America's Economic Explosion

Edited by DAN H. FENN, JR., *Harvard Business School Bulletin.*

269 *pp.*, 5⅝ *x* 8⅜ (1961).....$6.00*iL*

New insights into some of the most vital challenges and opportunities facing the American economy today are provided in this stimulating book. Twenty-two leading executives, economists, and other distinguished observers at Harvard's 30th Annual Business Conference focus their attention on management's responsibilities in solving the special problems of growth, and on the ways individual companies can benefit from national economic expansion. Topics ranging from the broad issue of how to achieve economic growth to the specifics of product-line planning, new trends in marketing, and long-range company strategy are discussed. Here are valuable guideposts for planning, acquisition of capital, seeking foreign markets, collective bargaining, economic coexistence, and other important facets of our exploding economy.

CONTENTS—GROWTH: PROSPECTS AND PITFALLS. Government's Partnership in Economic Growth. Economic Growth and the Businessman. Economic Growth for What? The Problems of Inflation and Productivity in the United States. Inflation—How Much Is Necessary for Growth? Additional Comments: Managing America's Economic Growth. MANAGEMENT PROBLEMS IN AN EXPANDING ECONOMY. Who Will Manage Our Economic Growth? Problems of Product-line Planning. The Line Executive and Long-range Planning in a New Economy. American Marketers Abroad. Product Planning and the Impact of Foreign Competition. Marketing—Appraisal and Outlook. Competing for the Capital to Finance Corporate Growth. Collective Bargaining and Inflation. SOME LARGER ISSUES FACING BUSINESS. Economic Growth and the Welfare State. The Entrepreneur and Small Business. Competing with Soviet Research and Development. The Strategy and Tactics of Economic Coexistence. Postscript: Some Thoughts on Growth, Economic and Personal.

Consumer Economics

BRITT—The Spenders

By STEUART H. BRITT, Northwestern University. *Series in Mktg. & Advtg.*

294 *pp.*, 5⅝ *x* 8⅜, 1 *illus.* (1960)....$6.50*t*

Discusses the consumer—what sort of person he is, where he is, how he acts, spends, saves and thinks. This book has been tailored using the results of a LIFE sponsored consumer expenditure study by Politz. It will prove helpful to advertising and marketing people whether in business, industry or the academic world.

CONTENTS—What's on the Consumer's Mind? Consider Your Motives. What Do You Want? The Consumer Is King. Business Is Your Business. Spend Your Money and Take Your Choice. You Have the Money and the Time. Who Spends for What? Vive La Product Difference! Are They Tops or Flops? What Do You Imagine? You Learn through Advertising. Your Stores Have Personalities. How About Price? Marketing Research Can Help. Is Motivation Research the Answer? Women Are Here to Stay. There'll Be Some Changes Made. Your Future Is Here.

COCHRANE AND BELL—The Economics of Consumption

Economics of Decision Making in the Household

By WILLARD W. COCHRANE, University of Minnesota, University Farm, and CAROLYN S. BELL, Wellesley College.

481 *pp.*, 6 *x* 9, *illus.* (1956).....$7.95*c*

Combining theoretical and statistical analysis with current descriptive material on important institutions, this book discusses and analyzes the decision making of households within the frame of reference provided by modern economics. Emphasis is on developing an understanding of the decision-making processes in consumption, rather than on providing information for use in such decision making. It is thus concerned with the nature of the consumption process—the decision making and behavior of individuals and groups involved in consumption activities.

CONTENTS—Introduction. The Theory of Consumer Behavior. The Expenditure Approach to Consumer Behavior. The Consumer in the Market. The Consumer Outside the Market. Index.

KATONA—The Powerful Consumer

By GEORGE KATONA, The University of Michigan.

276 *pp.*, 6 *x* 9, 34 *illus.* (1960).....$6.75*t*

Treats economics as a behavioral science subject to scientific measurement. Analyzes the behavior of the consumer, the process of consumer decision making, and shows how changes in consumer willingness to buy are important determinants of upswing or recession, price stability or inflation. Thorough discussions of the factors of spending, saving, and investing are included.

CONTENTS—Income and Confidence. Consumer Latitude. Consumer Attitudes and Demand for Durable Goods. The Nature of Attitudes and Expectations. On the Origin of Changes in Attitudes. Attitudes and Behavior of Individuals. Stability of Consumer Saving. Motives and Levels of Aspiration. Rational Behavior. Group Belonging and Group Influence. The Psychology of Prosperity. The Psychology of Inflation. The Psychology of Recession. Consumer Sanity. Appendix.

TROELSTRUP—Consumer Problems

By ARCH W. TROELSTRUP, Stephens College. Second Edition.

511 *pp.*, 6 *x* 9, 38 *illus.* (1957).....$6.95*c*

Designed to train college students for more effective personal, family, and group living. The subject matter has been drawn from any discipline that helps the reader gain better insight and information on a consumer problem. Material has been included from the fields of psychology, economics, nutrition, government, sociology, and homemaking.

CONTENTS—Money Management for College Students. Money and Marital Happiness. Money Planning to Fit the Family. Democracy in Home Management. Intelligent Consumer Choice. Food Shopping Begins at Home. Food Shopping in the Market. Solving the Family Clothing Problem. Wise Shopping for Clothing. Deciding to Rent, Buy, or Build a Home. Buying Good Health through Medical Services. Savings as Part of the Family Spending. Investments, Estate Planning, and Wills. Consumer Credit: Charge Accounts and Installment Buying. The Consumer and Taxes. Consumer Protection: Private Aids. Consumer Protection: Public Aids. Improving Consumer Welfare. Index.

WILHELMS AND HEIMERL—Consumer Economics

Principles and Problems

By FRED T. WILHELMS, San Francisco State College, and RAMON P. HEIMERL, Colorado State College. Second Edition.

544 *pp.*, 6 *x* 9, *illus.* (1959).....$5.60*b*

Workbook $1.84*b*

A revision of the popular high school book that explains objectively the facts and issues that confront the consumer in our modern economic society. Up-to-the-minute, understandable and complete, the book builds useful skills in buying, managing personal finances, increasing resources and protecting legal interests. The author includes areas of consuming that are of growing interest and importance—recreation, the economics and medical care and investments. At every step, the reader's interests are interwoven with a social point of view.

International Economics

BAKER—Business Leadership in a Changing World

The Report of the International Industrial Conference at San Francisco. Sponsored by the National Industrial Conference Board and Stanford Research Institute

Edited by ROBERT L. BAKER, National Industrial Conference Board, Inc.

461 *pp.*, 6 *x* 9 (1962).....$7.75*t*

Here is the report of what happened when more than 500 executives from 60 countries met together to consider the problems and opportunities business leadership faces in the coming decades. With contributions by 57 leading authorities, it discusses the ways in which business leadership can be strengthened to grasp the opportunities of the future, and examines the managerial policies and techniques through which free enterprise can prosper. The book gives full coverage to the role of business in shaping public policy; technology and growth; corporate long-range planning; problems of the multi-national company; financing corporate growth; the newly developed economies; the changing structure of world trade; population pressures and the consumption explosion.

CONTENTS—I. A WORLD PERSPECTIVE. The Task for Business Leadership. The Call for Leadership. Economic Growth: The Record. Economic Growth: The Outlook. II. INTERDEPENDENCE OF THE FREE WORLD. 1. POPULATION PRESSURES AND THE CONSUMPTION EXPLOSION. The Demographic Outlook. Developing Human Resources. Medical and Biochemical Implications. The Consumption Explosion. 2. CHANGING STRUCTURE OF WORLD TRADE. Primary Commodity Problems. Competition Among Industrialized Nations. Impact of Regional Groups. Institutional Arrangements to Advance World Trade. OECD and Future World Trade. 3. INVESTMENT AND FINANCIAL POLICIES. Evaluation of Structures in International Finance. India's Monetary and Fiscal Disciplines. Currencies, Capital, and Balance of Payments. Investment Policies for Latin America. Note on Spain's Economic Recovery. 4. THE NEWLY DEVELOPING ECONOMIES. Patterns for Private Participation. Utilizing Internal Investments. Problems in Giving Aid. Management and Growth. 5. GOVERNMENT-BUSINESS RELATIONSHIPS FOR GROWTH. Government Responsibilities. Responsibilities of Business. How Much Public Enterprise? A Program for Economic Growth. III. STRENGTHENING BUSINESS LEADERSHIP. PLENARY ADDRESSES: SOME FUNDAMENTALS. Beginning at the Beginning. Code of Ethical Values. Growing Importance of Organization. Developing High-level Leaders. New Responsibilities of Business Leadership. 1. BUSINESS AND PUBLIC POLICY. Business: Enemy or Citizen. Preserving the Free Enterprise

Concept. Providing a Good Climate for Business. Industry—Government Cooperation in Australia. Influencing Public Policy in Britain. 2. FINANCING CORPORATE GROWTH. Helping the Smaller Company. Risk Investment Without Ownership Control. Commercial Banking in Japan. Growth through Auto-financing. 3. TECHNOLOGY AND GROWTH. Budgeting for Research and Development. The Two Technologies. National Policy and Technological Investment. Prerequisites to Technological Progress. Stimulating Technological Development. 4. LONG-RANGE CORPORATE PLANNING: CASE STUDIES. Worthington Corporation. N. V. Philips. The Thyssen Group. 5. THE MULTINATIONAL COMPANY. Why Expand Overseas? Facing Political Realities. Local Autonomy and Central Control. Parent Company and Local Management. IV. CHALLENGE FROM FOUR CONTINENTS. Plain Talk from an African. Private Enterprise and India's Plans. Alliance for Progress in Latin America. Freedom Calls Again. SUMMATION.

BRYCE—Industrial Development

A Guide for Accelerating Economic Growth

By MURRAY D. BRYCE, Arthur D. Little Inc., Cambridge, Mass.

282 *pp.*, 6 *x* 9 (1960).....$7.50*r*

Covering the world, literally, from Burma to Peru, this is the only book of its kind, a book tested in the personal experience of the author, who has worked on about 100 industrial projects in 15 countries. Brings together the economic, financial and management techniques of industrial development, which can be used in any region aiming to increase its rate of industrial growth. For bankers and businessmen, economists and engineers, professors and planners, investors and those seeking investment, economic aid personnel and their counterparts in host countries, this book will be helpful to governments and organizations, both public and private, in their work to achieve a better rate of development growth.

CONTENTS—PART I. APPROACHES TO INDUSTRIALIZATION IN A DEVELOPING ECONOMY: 1. The Basis for Sound Industrial Development. 2. Criteria for Judging the Value of Industrial Projects to the Economy. 3. Government Industrial Development. 4. Private Industrial Development. 5. How to Make the Best of Both Worlds. PART II. THE DEVELOPMENT OF INDUSTRIAL PROJECTS: 6. Project Origination. 7. Analyzing the Technical Feasibility of a Project. 8. Analyzing the Economic Feasibility of a Project. 9. Measuring Commercial Profitability Prospects. 10. Measuring National Economic Profitability Prospects. 11. Final Preparatory Steps in Project Development. 12. Management—the Key to Success. PART III. THE FINANCING OF INDUSTRIAL PROJECTS: 13. Where to Seek Financing. 14. Financing Fundamentals. 15. Presenting Projects for Financing. 16. The Appraisal of Industrial Projects. Appendices. Selected Bibliography. Index.

BRYCE—Desarrollo Industrial

294 *pp.*, 6 *x* 9 (1961).....$6.00*r**

* *Not for sale in Spain and possessions.*

COPPOCK—International Economic Instability

The Experience After World War II

By JOSEPH D. COPPOCK, Earlham College. *Econ. Hdbk. Series.*

190 *pp.*, 6 *x* 9, 38 *illus.* (1962).....$7.95*c*

This study describes and analyzes international instability. The author uses statistical data for 83 countries to explain the factors associated with high and low export instability. Worldwise in scope, the book includes important details on many countries and many commodities. The problem of economic instability is discussed in relation to other international economic developments of the past fifteen years.

CONTENTS—Preface. The Problem of International Economic Instability. Measurement of International Economic Instability. Instability of International Trade Since World War II. Instability of Foreign Trade of Individual Countries. Statistical Analysis of Instability of Export Proceeds. Statistical Analysis of Instability of Export Proceeds (continued). Summary and Conclusions. Appendix. Index.

HARBISON AND MYERS—Education, Manpower and Economic Growth

By FREDERICK HARBISON, Princeton University and CHARLES A. MYERS, Massachusetts Institute of Technology. *Series in Int'l Dev.*

In Press

The book presents a generalized concept of human resource development which will be useful to economic planners, education and manpower planners, as well as to students of economic development and political and social modernization. It is basically a policy-oriented book, emphasizing after extended analysis appropriate strategies of human resource development at each of four levels of development. A quantitative analysis of indicators of human resource development and economic growth in 75 countries is the basis for a subsequent analysis of these countries grouped in four levels of human resource development. This provided an analytic framework for presenting appropriate strategies of human resource development at each level, and for integrating human resource planning with general economic development planning.

CONTENTS—A Concept of Human Resource Development. Problems and Issues. Manpower Analysis. Stages of Human Resource Development: The Indicators. The Primitive Underdeveloped Countries. The Less-developed Countries. The Advanced Countries. The Highly Advanced Countries. Summary: The Dilemmas. The Choices and the Principles of Human Resource Development. The Strategy of Human Resouree Development in Economic Planning.

HARRIS—International and Interregional Economics

By SEYMOUR E. HARRIS, Harvard University. *Econ. Hdbk. Series.*

564 *pp.*, 6 *x* 9, 3 *illus.* (1957).....$7.95*c*

This book centers around problems of disequilibrium. It starts off with a discussion of classical and neo-classical theories of international and interregional economics. Institutional changes which are or require deviations from the free market are considered. The final part of the book includes a study of the post-war disequilibrium in the first post-war decade.

CONTENTS—The Distribution of Tasks Among Nations: Mainly Principles and History. Money, Capital Movements and the Balance of Payments. Interregional Economics. Adjustments in International Economics. Some Aspects of Adjustment in the Post-War Period. Looking Ahead. Index.

HARROD—The British Economy

By SIR ROY F. HARROD, Oxford Univ. *Econ. Hdbk. Series.*

224 *pp.*, 6 *x* 9 (1963).....$5.95*c*

A look at present-day British economy applicable to some of the current problems in the U. S. The author draws upon recent history for a more complete understanding of existing conditions in Britain and makes a number of analogies between American and British problems and policies. This book criticizes economic policy-making in the UK and in the U. S. and the theories on which it is based. This criticism emanates from the author's own theories concerning the causes of economic growth and from his detailed knowledge of the development of events in the UK since World War II. The author stresses that a greater rate of economic growth is both achievable and desirable, since it will raise living standards in the UK and contribute more fully, by trade and aid, to the economic progress of developing countries overseas. He critically scrutinizes recent British economic policies and reaches the conclusion that much new thinking i

required to adapt these policies to the objectives of economic growth. He also believes that this new thinking is relevant to American policy-making.

KINDLEBERGER—Economic Development

By CHARLES P. KINDLEBERGER, Massachusetts Institute of Technology. *Econ. Hdbk. Series.* 325 *pp.*; 6 *x* 9, 39 *illus.* (1958).....$7.50*c*

A broad, balanced picture of the state of modern economic development, reviewing the subject concisely and indicating the major issues. A synthesis of economic and social theories dealing with economic development is presented early in the book. The main section deals with current economic development problems, although some historical illustration is drawn from the economic histories of Western Europe, North America, and Japan.

CONTENTS—Editor's Introduction. Preface. The Process of Growth. Land. Capital. Labor. Technology and Entrepreneurship. Scale. Transformation. Planning Versus Prices. Balance Versus Priorities. Labor-intensive Versus Up-to-date Technology. Active or Passive Monetary and Fiscal Policies. The Population Issue. Evolutionary or Revolutionary Social Change. Foreign Trade or Autarchy. Borrowing Abroad. Regional Cooperation. Relations with Developed Countries. A Few Conclusions. Index of Authors. Index of Subjects.

KINDLEBERGER—Desarrollo Económico

335 *pp.*, 6 *x* 9 (1961).....$7.00*r**

** Not for sale in Spain and possessions.*

FENN—Management Guide to Overseas Operations

Business Looks Abroad

Edited by DAN H. FENN, JR., Assistant Editor, *Harvard Business Review.*

312 *pp.*, 5⅝ *x* 8⅜ (1957).....$6.50*iL*

Well-organized, compact summary of the principal issues facing the American firm in the foreign field. The problems and possibilities for both small and large firms, and implications for the survival of capitalism and for the cold war, are surveyed. Includes numerous case histories, from a wide variety of companies, pointing up "how we did it and why." Based on talks and discussions at the 26th Annual National Business Conference, at Harvard Business School.

CONTENTS—OVERSEAS BUSINESS AND THE NATIONAL INTEREST. A Prospective for Business Abroad. American Business Abroad and the National Interest. Overseas Business and National Responsibilities. MANAGEMENT PROBLEMS AND CASE HISTORIES. American Business Goes Abroad: A Case History. Small Business Goes Abroad. Establishing and Operating Overseas Manufacturing Facilities. Executive Personnel Management in Foreign Operations. Labor Relations in Foreign Countries. Problems in Remote Control of Overseas Operations. Marketing Opportunities and Problems Overseas. Government Policy and Business Abroad. Returns and Risks on Investment Abroad. OVERSEAS VIEW OF UNITED STATES BUSINESS. India's Expanding Economy—Retrospect and Prospect. Why Investment in Latin America Is Good Business. Should United States Capital Go Abroad? FOREIGN OPERATIONS AND THE FUTURE OF CAPITALISM. Business Looks Abroad at Its Opportunities and Responsibilities. Business Relations Abroad—Can Capitalism Survive?

POWELSON—Latin America

Today's Economic and Social Revolution

By JOHN P. POWELSON, Johns Hopkins University. *Series in Int'l Dev.*

In Press

Covering all of the crucial issues relative to the economic development of Latin America, this book also pays due attention to Latin American literature. It includes a synthesis of the points of view of Latin American economists. It is written for students of economics government and non-government officials in Latin American countries, students of economics in Latin American universities, officials and professors in the United States concerned with Latin American studies and affairs and for U. S. university students pursuing Latin American studies.

CONTENTS—Breaking the Traditional Society. Primary Ouput versus Diversification—the Dilemma. Primary Output versus Diversification—A Search for Policy. Land Tenure and Economic Freedom. The Organization of Industry—Public, Private, or Mixed? Commercial Policy—Laissezfaire. Restrictions, or International Association? Money and the Fisc—The Bogy of Inflation. Economic Aid—A Study in Attitudes. The Revolutionary Way—Experiences of Mexico, Bolivia, and Cuba. Walking the Tightrope—Brazil and Argentina. Social Development and the Alliance for Progress. Economic Planning—The Why and the How. Economic Development—Problem or Opportunity?

ROSENTHAL—Techniques of International Trade

By MORRIS S. ROSENTHAL, Stein, Hall and Company, Inc., New York City.

554 *pp.*, 6 *x* 9, 84 *illus.* (1950).....$8.95*c*

Intended for use as a text in schools and colleges and as a reference book for practicing businessmen who deal with exports and imports. Contains detailed information on all phases of international trade techniques and covers the entire field of foreign trade practice from the time that a transaction is initiated until the shipment is made and all the details accomplished.

CONTENTS—THE CONTRACT. The Importance of the Written Contract. Time of Shipment. The Contingency Clause. Some Miscellaneous Clauses. THE OVERSEAS SHIPMENT. The Steamship Conference System. The Export Shipment. The Import Shipment. Freight Forwarders. The Ocean Bill of Lading and Liabilities of Ocean Carriers. The Commercial Invoice. CUSTOMS PROCEDURE IN THE UNITED STATES AND ABROAD. The Tariff System of the United States. Entries. Appraisement. Liquidation. Certain Special Regulations. Foreign Trade Zones. Foreign Government Regulations. INSURANCE. History of Marine Insurance. General Aspects. Types of Losses. Analysis of the Policy. Contingence from Which Underwriters Are Exempted. Added Risks. Settlement of Losses. Mechanics of Insurance. PACKING FOR OVERSEAS TRADE. General Aspects. Preservation of Contents. The Necessity of Neat and Attractive Packing. Cost Factors in Packing. Miscellaneous Technical Considerations. FINANCING EXPORT AND IMPORT SHIPMENTS. Financing the Import Shipment—Consignment and Open Account. Financing the Export Shipment—Drafts. Financing the Export Shipment—Letters of Credit. Financing the Import Shipment. Financing Export and Import Shipments—Some Special Methods. Credit Policy. FOREIGN EXCHANGE. Development of Monetary Systems. Buying and Selling Foreign Exchanges. CARRIAGE OF GOODS BY AIR. Use of Air Carriers. Air Cargo Freight Rates and Contract Conditions. International Agreements and Regulatory Bodies. COMMUNICATIONS. Mail. Cables and Radio. Types of Message. Codes. Office Organization. APPENDICES.

WALINSKY—The Planning and Execution of Economic Development

By LOUIS J. WALINSKY, Robert Nathan Associates. *Series in Int'l Dev.*

240 *pp.*, 6 *x* 9 (1963).....$7.50*r*

Aimed at policy makers, planners and administrators in the emerging countries, at aid administrators and, more broadly, at all those concerned with development problems and know-how, it focuses on the major problems encountered first in planning for development, and next in the execution of development plans and programs. The book establishes broad guidelines of an operational kind within which development objectives may best be achieved.

CONTENTS—*Planning:* The Price of Economic Development. Diverse and Common Elements in Planning Situations. Creating the Organization for Planning. Selecting Development Goals and Strategies. Appraising Development Potentials. Setting the Growth Targets. Setting the Resource and Investment Tar-

gets. Allocating Resources and Responsibility for Investment. Formulating Economic Policies. Testing and Adopting the Plan. *Execution:* The Importance and Scope of Plan Execution. Organizing for Effective Plan Execution. The Execution of Projects. The Execution of Sector Programs. The Execution of Economic Policies. Execution by the Private Sector. Annual Programming and Plan Modification. Execution of the Financial Plan. The Supervision and Coordination of Plan Execution. Some Essentials of Effective Plan Execution. *Some Practical Approaches:* Improving Public Administration. Improving Public Enterprise Management. Creating Industrial Development Institutions. Improving Agricultural Credit. Enacting Investment Legislation. Improving the Social Service. Utilizing Technical Assistance. Utilizing Foreign Capital Aid. *Appendices:* Developing and Developed Countries Compared—Six Charts. Selected Economic Data for the Less Developed Countries. Agencies Which Help Finance Foreign Trade and Investments. The Appraisal of Projects.

WELLISZ—The Economies of the Soviet Bloc
By STANISLAW WELLISZ, Univ. of Chicago.
In Press

A precise, analytical discussion of the Soviet-type economies behind the iron curtain, stressing the mechanism of soviet economic activity. A minimum of historical descriptions and comparisons with free enterprise are included, subjects being the roles of worker and consumer, Communist party leadership and economic planners, and broad planning objectives and methods. Book outlines, for the general reader, planning decisions, allocation of goods, and results of allocation methods as related to consumer and worker, demonstrating clearly the constant linkage between political structure and economic decision-making. Author points out both advantages and disadvantages of the system.

CONTENTS—Scope and Method of the Study. Economic Decision-Making in a Soviet-Type System. The Position of Workers and of Consumers in a Soviet-Type Economy. Long-Term and Perspective Plans. Short-Term Planning. The Soviet-Type Economy in Operation. Efficiency and Waste in Soviet-Type Economies.

Public Finance

MUSGRAVE—The Theory of Public Finance
A Study in Public Economy
By RICHARD A. MUSGRAVE, Johns Hopkins University.

615 *pp.*, 6 *x* 9, 75 *illus.* (1959).....$12.50*c*

Written for those already acquainted with the basic techniques of economic analysis, this volume offers the first comprehensive treatment of the theory of public finance in modern economics. The author develops a general framework for a normative theory of tax and expenditure determination, and undertakes a systematic analysis of the effects of budget policy upon the economy. Care is taken to relate the classical problems of fiscal effects upon resource allocation and income distribution to the newer problems of fiscal effects upon economic stability and growth.

CONTENTS—STATEMENT OF ISSUES. A Multiple Theory of the Public Household. Interdependence and Consolidation of Sub-budgets. Problems of Implementation. THE SATISFACTION OF PUBLIC WANTS. The Benefit Approach. The Ability to Pay Approach. Budget Determination through Voting. Further Problems in Efficiency. Equal Treatment of Equals. Budget Items in the Social Accounts. ADJUSTMENTS TO BUDGET POLICY: CLASSICAL ASPECTS. Incidence and Output Effects of Budget Policy. Adjustments in Work Effort. Adjustments in Consumption and Saving. Adjustments in Price and Output. Adjustments in Investment. Incidence in the All-consumption Model. Incidence in the Capital Formations Model. ADJUSTMENTS TO BUDGET POLICY: COMPENSATORY ASPECTS. Income Determination and the Theory of Stabilization. Compensatory Finance—Consumption Aspects. Compensatory Finance—Investment Aspects. Fiscal Dynamics and Growth. Flexibility and Neutrality. Liquidity Aspects of Fiscal Policy. Classical Theory of Public Debt. Compensatory Theory of Public Debt.

Transportation

BAKER AND GERMANE—Case Problems in Transportation Management
By GEORGE P. BAKER, Harvard Graduate School of Business Administration and Transportation Association of America, and GAYTON E. GERMANE, U.S. Steel Corp., Pittsburgh.

540 *pp.*, 6 *x* 9, 92 *illus.* (1957).....$9.50*c*

A case book covering many of the management problems encountered by transportation companies. Each problem is dealt with in a number of cases. For example: Selection of Equipment (5 cases); Locational Selection (3 cases); Allocation and Scheduling of Equipment (4 cases); Pricing (5 cases); Merchandising (7 cases); Marketing Research (3 cases); Advertising (3 cases); Control (6 cases); Finance (5 cases); Labor Relations (7 cases); Organization (4 cases).

GERMANE, GLASKOWSKY, AND HESKETT—Highway Transportation Management
By GAYTON E. GERMANE, Stanford University, NICHOLAS GLASKOWSKY, University of Minnesota, J. L. HESKETT, Ohio State University.

350 *pp.*, 6 *x* 9, 59 *illus.* (1963).....$9.50*c*

This is a combination text and casebook covering highway transportation with major emphasis placed on freight transportation. Passenger transportation, while covered less fully, is given adequate treatment for most academic and industrial needs. The role of middle management is the keystone of the book and it will prove a valuable aid to executives in this area of the organization. Such orientation will be equally valuable to college students with no experience in industry.

CONTENTS—Preface, Dimensions of the Highway Transportation Industry, Organization, Operations and Equipment, Traffic and Sales, Advertising and Public Relations, Finance and Control, Human Relations, Motor Carrier Policy Formulation, Public Policy, Index.

McDOWELL AND GIBBS—Ocean Transportation
By CARL E. MCDOWELL, American Institute of Marine Underwriters, and HELEN M. GIBBS, Research Consultant.

475 *pp.*, 6 *x* 9, 11 *illus.* (1954).....$8.95*c*

The authoritative book on ocean transportation, the merchant marine, and the shipping industry and their contributions to the world's economy. The treatment is primarily from the point of view of the shipowner and/or operator, secondarily from the point of view of the shipper and the government and public.

CONTENTS—Part I. SHIPPING IN THE WORLD ECONOMY. Shipping—Sea Power and National Power. Overseas Trade and Shipping Service. Overseas Trade and Shipping Services (continued). Trade Routes and Services. The United States Domestic Fleet and Its Employment. Merchant Fleets of the World. Part II. THE SHIPPING PROCESS. Traffic Management. Freight Forwarding and Freight Brokerage, by John H. Frederick. Ship Operation: The Ship. Ship Operation. Charters, by Frank J. Zito, Ship Operation: The Men. Organization and Management. Part III. THE FINANCING OF SHIPPING. Governmental Aid. The Problem of Shipping Finances. Accounting Policy and Practice, by Arthur B. Poole. Part IV. ADMIRALTY, INSURANCE AND REGULATION. Seamen's Law, by Harry L. Haehl. The Law of Vessels, by Harry L. Haehl. Marine Losses and Marine Insurance, by Walter G. Hays.

Rates and Practices and Their Regulations, by Raymond L. Burley. Part V. THE ROLE OF GOVERNMENT. Laws and Agencies Governing Shipping, by J. Munroe Sullivan. International Conventions and Treatises. Shipping in Wartime and Emergencies.

SPEAS—Technical Aspects of Air Transport Management

Operations, Engineering, Maintenance, and Economic Factors of Airline Services

By R. DIXON SPEAS, Aviation Consultant.

316 *pp.*, 6 *x* 9, *illus.* (1955).....$9.50*c*

A ready reference on aircraft, operating procedures, and other technical aspects of airline operation, for those who wish to improve their knowledge of important phases of airline management. Here, all phases of airline management are dealt with and the technical aspects of airline operation are presented in a manner that can be easily understood by those in non-technical airline work.

CONTENTS—Historical Summary. Airline Organization. Aircraft and Engines in Airline Operations. Operating Costs and Revenues. Aircraft Utilization and On-time Operation. Fundamentals of Flight and Performance. Take-off, Climb, and Ceiling Performance. Cruise-control Methods of Reciprocating Engines for Efficient Operation. Fuel-load Requirements. Airplane Weight and Balance Problems. Aircraft Maintenance and Engineering. Communications and Meteorology. Airports and Airways. Passenger Service. Cargo Operations. Turbine-powered Transport Aircraft. Conversion Factors. Index.

Labor Economics

McGRAW-HILL LABOR MANAGEMENT SERIES

(Labor Mgmt. Series)

Goldberg—AFL-CIO: Labor United
Saposs—Communism in American Unions
Taylor and Pierson—New Concepts in Wage Determination

PUBLICATIONS OF THE WERTHEIM COMMITTEE

(Pub. of Wertheim Comm.)

Alexander—Labor Relations in Argentina, Brazil and Chile
Stevens—Strategy and Collective Bargaining Negotiation

CHAMBERLAIN—Labor

By NEIL W. CHAMBERLAIN, Yale University.

625 *pp.*, 6 *x* 9, 11 *illus.* (1958).....$8.50*c*

A survey of the economic role of workers—as organized by management in the work process, and as organized by unions in the representation process. This book will acquaint the reader with specific issues and problems, and will permit an over-all assessment of the economic significance of unions in the United States. An unusual number of questions and problems provided after each chapter are specifically designed to encourage independent student thinking.

CONTENTS—Preface. Labor Force, Labor Market, and Labor Organization. The Union in American Institutional Life. The Changing Philosophy of the American Labor Movement. (Appendix: The AFL-CIO Merger.) The Unions. Management. Bargaining Power. Political Manipulation of Bargaining Power. Economic Bargaining—Negotiating the Agreement. The Bargaining Unit. Role of the National Labor Relations Board. Union Security. Union Impact on the Management Function. The Grievance Procedure and Plant Discipline. Seniority: The Influence of Unions on Labor Mobility. The Impact of Unions on Productivity. (Appendix: Automation and the Unions.) The Influence of Strikes on the Economy. Wage Setting in an Ununionized Economy. I. (Appendix: General Equilibrium.) Wage Setting in an Ununionized Economy. II. (Appendix: The Meaning of "Wages.") Wage Setting in an Organized Economy. (Appendix: The Influence of Managerial Ability on Wages.) The Monopoly Powers of Unions. The Influence of Unions on Relative Wage Rates. The Economics of Minimum-wage Legislation. Union Influence on Occupational Wage Differentials. Full Employment and Inflation. Union Influence on Wage-Price Relations. (Appendix: Wage Control in Time of Crisis.) The Influence of Unions on Hours. The Influence of Unions on the Distribution of Income. (Appendix: The Distribution of Income among Workers.) The Unions' Role in Social Security Pensions. Unemployment Benefits—Public and Private. Trends and Analysis. Index.

CHAMBERLAIN—Sourcebook on Labor

By NEIL W. CHAMBERLAIN, Yale University.

1104 *pp.*, 6 *x* 9, 17 *illus.* (1958).....$12.50*c*

Presents documentary and semi-documentary materials on the nature, functioning, and effects of labor unions in the U.S. Included are: governmental reports, speeches and statements of business and labor leaders, union constitutions, collective bargaining agreements, arbitration awards, testimony before Congressional Committees, contemporary newspaper and magazine accounts, and company and union documents. Thus, the contentious story of labor in America is spread out before the reader as it comes from its sources, including the bias and prejudice, the self-interest and special pleading which is customarily encountered in real life. The content, organization, questions, and problems in this sourcebook are directly relevant to corresponding chapters in the author's *Labor* text.

CONTENTS—Labor Force and Labor Market. Background on Unionism. The Unions. Union Leadership. Management Outlook and Practice. Political Activity. Collective Bargaining. The Bargaining Unit. The National Labor Relations Board and Representation Elections. Taft-Hartley Unfair Labor Practices on the Part of Employers. Taft-Hartley Unfair Labor Practices on the Part of Unions. Union Security. Management Rights. The Grievance Procedure. Seniority. Union Influence on Productivity. Strikes. Wage Determination. Labor Monopoly. Minimum Wages. Unions and Inflation. Pensions. Unemployment Compensation and Supplementary Benefits. The Role of Unions in Society.

COLE—The Quest for Industrial Peace

By DAVID L. COLE, Cole, Berman & Garth.

175 *pp.*, 5⅜ *x* 8 (1963).....$4.95*t*

A timely and frank analysis of the reasons for the so-called "failures" of collective bargaining, along with some recommendations as to what can be done to improve the situation, by an author with long experience as arbitrator or mediator in many critical labor disputes. Mr. Cole disagrees strongly with the prevailing attitude of resignation and the resulting behavior patterns that impede efforts to develop

a higher level of industrial peacefulness. He believes that constructive techniques for improvement are at hand and makes some specific suggestions as to how this improvement may be brought about. Based on a group of lectures sponsored by the Meyer Kestnbaum Committee, Harvard University.

LEBERGOTT—Manpower in Economic Growth
The United States Record Since 1800
By STANLEY LEBERGOTT. *Econ. Hdbk. Series. In Press*

This important study analyzes the role of manpower in American economic growth since 1800; offers a variety of new measures—of employment, labor force, prices, and wages—and relates these data to important economic and historical aspects of our national growth. Part I reviews the distribution of labor among the separate industries and regions of the United States since 1800. Parts II and III offer a variety of new statistical material for the nineteenth and twentieth centuries. These statistics provide a fresh review of the major aspects of American growth and offer valuable background information for individual research.

CONTENTS—SOURCES AND CONSEQUENCES OF GROWTH. The Matrix. The Materials. The Process. Some Consequences. Some Inferences. COMPONENTS OF CHANGE—NINETEENTH CENTURY. Wages in the Long Term. Occupational Earnings: 1800–1860. Living Costs: 1800–1880. METHODS OF ESTIMATE: ANNUAL SERIES 1900–1960. Labor Force, Employment, and Unemployment. Employees, by Industry. Full-time Equivalent Earnings. Statistical Appendix. Index.

PHELPS—Introduction to Labor Economics
By ORME W. PHELPS, Claremont Men's College, Claremont, Cal. Third Edition.
566 *pp.*, 6 *x* 9, 10 *illus.* (1961).....$8.50*c*

An informative and modern revision of a highly successful text, the third edition describes the principal forces at work in the U.S. labor market (employer, employees, unions, and government agencies) and the issues raised by their interaction. Intended mainly for upper-division courses, this text presents the various issues to students so that they will see how choices are made with respect to facts, premises, and theories in order for the participants to reach policy conclusions.

CONTENTS—Preface. Part I. The Labor Market. To the Student. Population and the Labor Force. Labor Markets in the United States. Part II. The Labor Movement. Organized Labor Today. The First Hundred Years: 1786–1886. The AFL Era. The Rise of Organized Labor: 1936 to Date. Union Organization and Management. Collective Bargaining. Strikes. Picketing, Boycotts. The Origins and Goals of Organized Labor. Part III. Employment Security. The Problem of Unemployment. Full Employment, Inflation, Economic Growth. Part IV. Wages. The Problem of Wages. Wage Theory and Policy. Public Regulations of Wages. APPENDIX. INDEX.

SHULTZ AND COLEMAN—Labor Problems
Cases and Readings
By GEORGE P. SHULTZ, University of Chicago; and JOHN R. COLEMAN, Carnegie Institute of Technology. Second Edition.
546 *pp.*, 6 *x* 9 (1959).....$6.50*c*
Soft-cover Ed. $4.95*c*

The revised edition contains 60 per cent new material encompassing new and improved material available since 1953 and changes of emphasis through their experience with the first edition. The volume is adaptable to all liberal college courses, regular business school courses, and executive program courses. Essays by the authors introduce major issues.

CONTENTS—Preface. THE AMERICAN LABOR UNIONS. Introduction. The Growth of Unionism. The Internal Operations of Unions. American Union Philosophy. MANAGEMENT: PROBLEMS, ORGANIZATION, and PHILOSOPHY. Introduction. Problems and Organization. Philosophy. On Employees and Unions. COLLECTIVE BARGAINING: THE GENERAL PICTURE. Introduction. The Institutions in Collective Bargaining. Approaches to Collective Bargaining. COLLECTIVE BARGAINING: SELECTED ISSUES. Introduction. Status Issues: Union Security and Management Rights. Employment Rights on Jobs: Seniority and Discipline. Introducing Technological Change. Some Problems of Wage Administration. Union-Management Cooperation on Production Problems. ECONOMICS AND LABOR PROBLEMS. Introduction. Wage Theory and the Labor Market. Wage Determination: Some Case Studies. Collective Bargaining, Labor Monopoly, and the General Wage Level. PUBLIC POLICY IN LABOR PROBLEMS. Introduction. Federal and State Policy on Labor Problems. The Right to Organize. The Duty to Bargain. The Use of Sanctions. Social Insurance. CHARTS. The Growth of American Unions. How a Union Is Organized. A Typical Way of Handling Grievances and an Analysis of their Subject Matter. Name Index.

HARBISON AND IBRAHIM—Human Resources for Egyptian Enterprise
By FREDERICK HARBISON, Princeton University, and IBRAHIM ABDELKADER IBRAHIM, International Labor Office, Geneva.
221 *pp.*, 5⅜ *x* 8 (1959).....$5.95*c*

Concentrating on developments under the Nasser Regime since the Revolution, this volume analyzes Egypt's general problems of economic growth, the development of entrepreneurship and management for her expanding industry, the recruitment of labor, and the capacity of her educational system to develop human resources. It is based on an exhaustive survey of the pertinent literature both in Arabic and English as well as upon 500 interviews with officials highly placed in government, industry, and labor unions in Egypt. This volume is one of a series of country manpower studies carried out by the Inter-University Study of Labor Problems in Economic Development and financed by the Ford Foundation.

SAPOSS—Communism in American Unions
By DAVID J. SAPOSS, Economic Consultant. *Labor Mgmt. Series.*
304 *pp.*, 6 *x* 9 (1959).....$7.50*i*

In this book, a leading labor authority gives a comprehensive survey of communist activities in the American trade union movement. Beginning with a historical analysis of the growth of communism in this country, the book describes in detail the various attempts to capture and dominate the movement. Here is a full revelation of the methods used by the communists . . . their methods of infiltrating and amassing power . . . their appeals to the rank and file . . . and their successes within the CIO and AFL. The author also shows how the communist influence was finally eliminated for the most part through the efforts of labor, employers, and government agencies.

CONTENTS—Part I. The Communist Movement's Inheritance from Early Radicalism. Part II. Communist Penetration of the American Federation of Labor. Part III. Communist Infiltration of the CIO. Part IV. Combatting Communist Domination.

YOUNG—Understanding Labor Problems
By DALLAS M. YOUNG, Western Reserve University.
438 *pp.*, 6 *x* 9, 4 *illus.* (1959).....$8.50*t*†

Here is factual material on labor relations history, problems, and law presented in a clear, informal, exceptionally readable style. Thi

† *Textbook edition available at educational list price.*

book, written by a prominent authority, is suitable for classroom use or individual use by those who want to, or need to, understand labor problems. Includes the complete Labor Management Reporting and Disclosure Act passed by Congress in September 1959.

CONTENTS—Part One: THE NATURE OF LABOR PROBLEMS. Introduction. "Labor"—the Meaning of the Word. Part Two: LABOR RELATIONS—YESTERDAY AND TODAY. Employees' Federations. Employees' Federations (cont'd)—Labor Unity? Management Associations. Men Who Lead. Bargaining. Part Three: LABOR PROBLEMS—PARTICULAR AND GENERAL SOLUTIONS. Under These Rules. Union Security. The Due Process Clause of Industrial Relations. Wages. Hours. Working Conditions. Duration and Termination. Other Labor Problems. Part Four: CONGRESS ACTS—THE COURTS RULE. Conspiracy and Restraint. The Use of Injunctions. Laws and the Right to Bargain—N.L.R.A. and L.M.R.A., Title I. The Right to Strike—L.M.R.A., Title II. "And for Other Purposes"—L.M.R.A., Titles III, IV, V. New Labor Relations Laws? Part Five: SOCIAL LEGISLATION. Federal. State. Part Six: LABOR PROBLEMS IN WAR AND POST-WAR PERIODS. External War—Internal Industrial Peace. Transition from War to Peace. Part Seven: WHERE DO WE GO FROM HERE? Some International Aspects of Labor Problems. Index.

GOLDBERG—AFL-CIO
Labor United
By ARTHUR J. GOLDBERG.
288 *pp.*, 5⅜ *x* 8, 8 *pages of illus.* (1956) $6.50*t*

This timely, authoritative book, following the AFL-CIO merger, provides a detailed twenty-year history of the American labor movement. Explores events leading to original division of the unions, records attempts at reconciliation since 1938, and describes final triumphant merger. Discusses significance of the merger, its implications for the future, probable effects on collective bargaining, organizing, political action, and the growing issue of labor monopoly. *Arthur J. Goldberg was formerly General Counsel of the CIO, and is now General Counsel of the United Steelworkers of America, and Special Counsel for the AFL-CIO.* Forewords by George Meany, President of the AFL-CIO, and David J. McDonald, President of the United Steelworkers of America.

MILLIS AND MONTGOMERY—The Economics of Labor
By HARRY ALVIN MILLIS; and ROYAL EWERT MONTGOMERY, Cornell University. *Business and Economics Publications.*

This comprehensive treatment has become a classic in the field. The authors give a descriptive and analytical treatment of *what* has occurred, a suggested analysis of *why* it has occurred, and equipment both in factual data and in economic analysis for appraising programs and suggested means of control.

VOLUME III—Organized Labor
930 *pp.* (1945) $9.50*c*

Constitutes an authoritative and definitive analysis of organized labor in the United States. The book gives the student a descriptive and analytical picture of *what* has occurred; a suggested analysis of *why* it has occurred; and an equipment both in factual data and in economic analysis for appraising programs and suggested means of control. Thus, while *Organized Labor* contains the necessary history and description in detail, it treats the various subjects in the light of social psychology.

CONTENTS—An Introductory Statement. Nineteenth Century American Unionism. American Trade Union History. 1890–1920. American Unionism of the 1920's. American Unionism Since 1930. Trade-union Structure, Government, and Interrelationships. Trade-union Institutionalism. The Union in Industry: The Theory of Collective Bargaining. Some Trade-union Policies and Practices. Trade Unions, the Law, and the Courts. The Problem of Strikes and Lockouts: The Conciliation and Arbitration of Industrial Disputes. Employee-representation Plans and Independent Unions.

CHAMBERLAIN—Collective Bargaining
By NEIL W. CHAMBERLAIN, Yale University.
499 *pp.*, 6 *x* 9, 7 *illus.* (1951) $7.50*c*

A definitive work on collective bargaining and a valuable reference for those engaged in the study and administration of labor relations. It weaves together the economic, political, legal, and socio-psychological strands which have determined the nature of the collective bargaining relationship.

CONTENTS—A Historical Introduction to Collective Bargaining in the United States, 1800 to 1850. A Historical Introduction to Collective Bargaining in the United States, 1850 to the Present. The Agreement Conference. Conference Procedures. Grievance Procedures. The Nature of the Bargaining Process. The Nature of the Collective Agreement. The Bargaining Unit: Factors and Forces. The Bargaining Unit: Trends and Public Policy. Bargaining Power. The Politics of Collective Bargaining: The Union. The Politics of Collective Bargaining: Management. The Law of Collective Bargaining. The Subject Matter of Collective Bargaining. The Economics of Collective Bargaining: The Problem of Relative Wage Rates. The Economics of Collective Bargaining: Effects on National Income Levels. The Economics of Collective Bargaining: Aspects of the Monopoly Problem. Collective Bargaining and Union-Management Cooperation. Group Decision Making and Collective Bargaining. The Rise of Collective Bargaining in American Society. Appendixes. Index.

SELEKMAN—Labor Relations and Human Relations
By BENJAMIN M. SELEKMAN, Graduate School of Business Administration, Harvard University.
255 *pp.*, 5½ *x* 8 (1947) $5.95*c*

This text explores the content of collective bargaining as a social process involving human people, and suggests beginnings in approach and action that seem worthy of further test in improving joint relationships among such people.

CONTENTS—Transition in Labor Relations: A Social Change. Impasse in Collective Bargaining. When the Union Enters. Negotiating the First Agreement. Administering the Agreement: Building Joint Relationships. Handling Shop Grievances. Resistance to Shop Changes. Leadership and the Road Ahead. Wanted: Mature Managers. Wanted: Mature Labor Leaders. Conflict and Cooperation.

SELEKMAN, SELEKMAN, AND FULLER—Problems in Labor Relations
By BENJAMIN M. SELEKMAN, SYLVIA K. SELEKMAN, and STEPHEN H. FULLER, Graduate School of Business Administration, Harvard University. Second Edition.
702 *pp.*, 6 *x* 9, 3 *illus.* (1958) $8.95*c*

This casebook for text or supplementary use in college courses in labor problems, or for supplementary use in courses in collective bargaining makes available authentic, real-life cases drawn from the work of collective bargaining and used in labor courses at the Harvard Graduate School of Business Administration. Questions appended to each case suggest helpful clues for uncovering the problem and its requirements in action. This revision describes recent significant events, such as the massive negotiations in steel and automobiles, as well as those in smaller industries like food, soap, chemical, and oil.

CONTENTS—Preface. FRAMEWORKS FOR STUDY OF CASES IN LABOR RELATIONS. INTERNAL RELATIONS: PROBLEMS IN THE SHOP. Transition in Labor Relations: A Social Change. Administering the Agreement. INSTITUTIONAL RELATIONS: PROBLEMS AT THE BARGAINING TABLE. CONFLICT AND COOPERATION: PROBLEMS OF ADAPTATION OVER TIME. Alphabetical List of Cases.

STEVENS—Strategy and Collective Bargaining Negotiation

By CARL M. STEVENS, Reed College. *Pub. of Wertheim Comm.*

200 *pp.*, 6⅛ *x* 9¼, *illus.* (1963).....$6.95*c*

This book is an inquiry into the tactics and strategy of conflict (and of cooperation) as they relate to collective bargaining negotiation. The analysis is largely confined to collective bargaining institutions as they operate in this country. The work aims to develop a systematic conceptual apparatus for the analysis of collective bargaining negotiation. It should also prove useful in the analysis of other classes of negotiation interaction.

CONTENTS—Subject Matter Context and the Negotiation Model. Conflict-Choice Model of Negotiation. Rules for Play of the Negotiation Game. Classification of Tactics. Early Stages of Negotiation, and Persuasion Versus Rationalization. Tactics of Coercion: Bluff and Notbluff. The Later (Predeadline) Stages of Negotiation. Mediation: Functions and Tactics.

TORFF—Collective Bargaining Negotiations and Agreements

By SELWYN H. TORFF, Seyfarth, Shaw, and Fairweather, Chicago.

323 *pp.*, 6 *x* 9 (1953).....$6.95*c*

A concise, clear, and comprehensive treatment of the entire collective bargaining relationship and the negotiation of collective bargaining agreements. It describes and analyzes the collective bargaining process as it operates in the United States at the present time. It sets forth all the major topics and issues which arise in collective bargaining negotiations.

CONTENTS—Part I. COLLECTIVE BARGAINING NEGOTIATIONS AND AGREEMENTS. Introduction. Organized Labor Movement in the United States. Legal Status of Collective Bargaining Process. Collective Bargaining: Scope, Parties, Mechanics. Part II. NEGOTIATIONS OF "NON-ECONOMIC" ISSUES. Formal Provisions of Collective Bargaining Agreements. Union Recognition and the Bargaining Unit. Union Security and the Check-off. No-Strike and No-Lockout Clauses. Seniority. Management Rights. Miscellaneous Non-economic Collective Bargaining Items. Part III. NEGOTIATION OF "ECONOMIC" ISSUES. Hours of Work and Overtime. Contractual Wage Structure Criteria for Wage Adjustments in Collective Bargaining. Vacations. Paid Holidays. Employee Benefit Plans. Miscellaneous Economic Collective Bargaining Items. Part IV. ADMINISTRATION AND ENFORCEMENT OF COLLECTIVE BARGAINING AGREEMENTS. The Grievance Procedure. Labor Arbitration.

ALEXANDER—Labor Relations in Argentina, Brazil, and Chile

By ROBERT J. ALEXANDER, Rutgers University. *Pub. of Wertheim Comm.*

617 *pp.*, 6 *x* 9 (1962).....$8.95*c*

Analyzes labor relations, and discusses reasons for differences in approaches to labor-management problems among the three countries. The book describes ways in which collective bargaining and its substitutes function there. Special emphasis is placed on the living conditions of the workers of these three nations. Also discussed, are the problems involved in recruiting and committing the industrial labor force, and related problems such as social security.

CONTENTS—Author's Preface. Industrialization and Its Impact. PART ONE—BRAZIL. Economic and Political Background. The Dramatis Personae. Labor—Management Relations. Government Control Over Class Organizations. Government Direction of the Workers' Protest. Employer Direction of the Workers' Protest. Recruitment and Commitment of the Workers. Working and Living Conditions of the Workers. PART TWO—ARGENTINA. Economic, Political, and Social Background. Labor—Management Relations Before Peron. Government Direction of Labor Protest Under Peron. Rise and Decline of Collective Bargaining. Legislative Attempts to Forestall Workers' Grievances. Effect of "Revolución Libertadora." Recruitment and Commitment of Workers. PART THREE—CHILE. Economic, Political, and Social Background. Organized Labor. Government Role in Directing Labor Protest. Workers' and Employers' Organizations. Collective Bargaining and the Collective Agreement. Employer Efforts to Limit Workers' Protest. Recruitment, Commitment, and Working Conditions. Inflation, Labor, and Economic Development in Argentina, Brazil, and Chile. Politics—The Question and the Answer. Appendix: Chilean Collective Bargaining Agreement. Notes. Index.

Wages and Salaries

TAYLOR AND PIERSON—New Concepts in Wage Determination

Edited by GEORGE W. TAYLOR, University of Pennsylvania, and FRANK C. PIERSON, Swarthmore College. Sponsored by the Labor Relations Council of the University of Pennsylvania.

336 *pp.*, 6 *x* 9 (1957).....$6.95*c*

Constitutes a reinterpretation of the entire field of wage economics, considerably modifying the traditional view of this subject. Throughout the discussion, attention is given both to the principles underlying wage decisions and to the variety of wage-setting experience found in modern industry.

CONTRIBUTORS—John T. Dunlop, Nathaniel Goldfinger, L. Hazard, E. N. Kassalow, C. Kerr, R. A. Lester, E. R. Livernash, L. G. Reynolds, Melvin Rothbaum, A. M. Ross.

CONTENTS—VIEWPOINTS AND ENVIRONMENT. An Evaluation of Wage Theory. Wage Theory: A Management View. Trade Union Behavior in Wage Bargaining. Wage Determination Processes. STRUCTURAL CHARACTERISTICS AND CHANGES. The Task of Contemporary Wage Theory. The Internal Wage Structure. The External Wage Structure. Economic Adjustments to Changes in Wage Differentials. NATIONAL WAGE MOVEMENTS. The General Wage Level. Trade Unionism and Distributive Shares. National Wage-structure Comparisons.

Agricultural Economics

Introductory and Agricultural Economics

ETHYL CORPORATION—Food for America's Future

Sponsored by ETHYL CORPORATION; with 12 Contributors.

167 *pp.*, 5⅜ *x* 8 (1960).....$3.95*t*

Gives you a clear view of the problem of population explosion and abundant food supply, with prospects for solution in some of the major areas. This book represents the combined thinking and writing of outstanding authorities in research, soil science, education, farm machinery and power, agricultural chemicals, food processing, and marketing. Starting with the basic question of America's land capability and progressing through other essential fields, these experts tell of the tremendous strides that have been made in food production, processing, and distribution. Their views on how and how well America's 240 million will be fed in 1975 are enlightening and thought-provoking.

CONTENTS—How Many People Can We Feed? Research for Abundance. Miracle of the Green Plant. New Horizons in Education. Management of Land,

Labor, and Capital. Insect, Disease and Weed Control. Making Land More Productive. Increasing Productivity by Power Farming. Energy in Abundance. Electricity and the Business of Farming. More and Better Food for More People. The Man on the Farm.

ROSS—An Introduction to Agricultural Economics

By ROBERT C. ROSS, University of Illinois.

414 *pp.*, 6 *x* 9, 34 *illus.* (1951).....$6.75*c*

For the introductory course in agricultural economics. The book begins with a brief story of the development of agriculture in the United States and the origin of many of our current farm problems. It presents agriculture as a national industry, discussing its production and what becomes of its products, and considering its price structure.

CONTENTS—Introduction. The Period of Settlement and Transformation, 1776 to 1860. Development of Commercialized Agriculture, 1860 to 1914. Agricultural Adjustments to War and Peace, 1914 to 1950. Agriculture as an Industry. The Basis of Demand for Farm Products. Prices of Farm Products. Marketing of Agricultural Products—Scope, Services, and Agencies. Costs of Marketing Agricultural Products. Cooperation in Agriculture. Foreign Trade in Agricultural Products. Agricultural Finance. Taxation and the Farmer. Land Use and Soil Conservation. Farm Management. Farm Records and Their Use. Rural People. Agricultural Relationships. Index.

Agricultural Marketing

THOMSEN—Agricultural Marketing

By F. L. THOMSEN, Commodity Marketing Corporation, New York.

483 *pp.*, 6 *x* 9, 64 *illus.* (1951).....$7.95*c*

A basic text for use in departments of agricultural economics. Special attention is given to the pricing mechanism and marketing margins and costs. Technological changes and their relation to the economic organization of marketing are fully treated.

CONTENTS—Objectives of Marketing Study. PART I. THE MARKETING JOB. Consumers of Farm Products. Agricultural Producers. Marketing Functions and Services. PART II. THE MARKETING SYSTEM. Types of Markets. Types of Dealers and Marketing Channels. Technological Evolution and Integration in Food Processing and Distribution. PART III. PRICES AND MARGINS. Aggregative Price Determinants—Consumer Demand. Determination of Prices and Marketing Margins. Price Discovery in the Marketing System. Marketing Margins and Costs. PART IV. AUXILIARY SERVICES IN MARKETING. Transportation Services and Rates. Grading, Standardization, Inspection, Regulatory Activities. Market Information. PART V. POTENTIAL IMPROVEMENTS IN MARKETING. Criticisms and Potential Improvements. Expanding Consumer Demand. Orderly Marketing and Controlled Distribution. Reducing Costs and Margins. PART VI. MEANS OF EFFECTING IMPROVEMENT. Individual Action to Improve Marketing. Cooperative Action to Improve Marketing. Government Action to Improve Marketing.

THOMSEN AND FOOTE—Agricultural Prices

By F. L. THOMSEN, Commodity Marketing Corporation, New York, and R. J. FOOTE, United States Department of Agriculture. Second Edition.

509 *pp.*, 6 *x* 9, 122 *illus.* (1952).....$7.95*c*

A thorough treatment of commodity price movements and factors affecting them.

CONTENTS—Objectives of Price Study. PRICE DETERMINATION AND DISCOVERY. Aggregative and Per-unit Price Determinants. Consumer and Derived Demands. The Supply Curve. Price Determination under Pure Competition. Pricing under Imperfect Competition. Time Elements in Prices. Price Discovery. The Relation between Cash and Future Prices. The General Price Level. Business Fluctuations and Demands. Government Price Programs. PRICE ANALYSIS AND FORECASTING. Methods and Materials of Price Analysis. Index Numbers and Similar Measures. Correlation in Price Analysis. The Use and Technical Interpretation of Multiple Correlation. Analysis of Trends, Cycles and Seasonal Variation. Price Forecasting and the Preparation of Outlook Reports. COMMODITY PRICES. Livestock and Meat Prices. Prices of Dairy Products. Prices of Poultry and Eggs. Prices of Fats and Oils. Grain Prices. Cotton and Wool Prices.

Agricultural Policy

SCHULTZ—The Economic Organization of Agriculture

By THEODORE W SCHULTZ. University of Chicago.

374 *pp.*, 6 *x* 9, *illus.* (1953).....$7.50*c*

Offers an analysis of two sets of problems: the functioning of an economy which is experiencing economic growth and development, and the implications of this process for agriculture: the stability attributes of the economy in relation to agriculture.

CONTENTS—Preface. List of Tables. List of Figures. Part I. ECONOMIC DEVELOPMENT AND AGRICULTURE. Agriculture in a Developing Economy. Three Sets of Demand and Supply Shifts. Focal Points and Conditions Affecting Long-term Shifts of the Demand. Population Still Uncoiling. Gauging the Relevant Income Elasticities. Effects of Nutrition upon Demand and Supply. Gauging the New and Better Production Possibilities. The Declining Economic Importance of Agricultural Land. Divergencies in Economic Development Related to Location. Income Disparity among Communities and Economic Development. Part II. ECONOMIC STABILITY AND AGRICULTURE. Conditions Underlying the Economic Instability of Agriculture. Yield Instability. Stability of Agricultural Inputs and Production. Producer Supply during the Stock Period. Part III. ECONOMIC ORGANIZATION FOR DEVELOPMENT AND STABILITY. Economic Activities to Be Organized. Economic Organization: Possibilities and Preferences. Organizing Agriculture for Economic Development. Factor Markets and Economic Development. Organizing Agriculture for Economic Stability. Organization for Price Stability. Index

Farm Management

EFFERSON—Principles of Farm Management

By JOHN NORMAN EFFERSON, Louisiana State University.

425 *pp.*, 6 *x* 9, 61 *illus.* (1953).....$7.50*c*

A simple, practical, college text presenting the basic principles of farm management and the use of these principles in operating a farm business. The material is applicable to all areas and all systems of farming.

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617 *pp.*, 6 *x* 9 (1963).....$7.50*c*

BLAKE—A History of American Life and Thought

By NELSON MANFRED BLAKE, Syracuse University. *Series in Amer. Hist.*

606 *pp.*, 7¼ *x* 9⅞, *illus.* (1963).....$7.95*c*

This complete revision of Professor Blake's *A Short History of American Life*, brings the subject matter up to date and extends its coverage of intellectual history. Insisting that ideas must be understood in their social context, the author traces the major forces that have shaped American life. This edition places increased emphasis on the history of ideas, analyzing the work of all the major figures in the development of American thought as well as the influence of great Europeans like Newton, Locke, Darwin, and Freud.

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FLOAN—The South in Northern Eyes 1831–1861

By HOWARD R. FLOAN, Manhattan College.

198 *pp.*, 5 5/16 *x* 8 (University of Texas Press, 1958; McG-H Paperbacks Ed., 1963) $2.45*pb*

In this book the author examines the writing of leading Northern literary figures in the three decades between William Lloyd Garrison's challenge of debate on the issue of slavery and the beginning of the Civil War. A few writers, such as Bryant and Whitman, had some first-hand knowledge of the South, but the others were content to follow Garrison's intemperate lead and add to the horrendous stereotype of the slave-holder which he created. This book presents and evaluates the writings of most of the leading writers of the period.

GEWEHR—The United States

A History of a Democracy
Edited by WESLEY M. GEWEHR; DONALD C. GORDON; DAVID S. SPARKS; ROLAND N. STROMBERG; and with the special assistance of HERBERT A. CROSSMAN. All of the University of Maryland. *Series in Hist.* Second Edition of American Civilization: A History of the United States.

713 *pp.*, 6⅜ *x* 9¼, 260 *illus.* (1960)..$7.95*c*

The main objectives are the elimination of needless or already familiar details, and a simple and clear presentation of topics. A consistent effort is made to prevent the chapters from becoming a series of historical essays without reference to a theme or lacking in unity. While each chapter is a unit in itself it is part of a general pattern which makes a connected narrative, carrying one through the entire span of American history from European and colonial backgrounds to the present.

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GRAEBNER—An Uncertain Tradition

American Secretaries of State in the Twentieth Century
Edited by NORMAN A. GRAEBNER, The University of Illinois. *Series in Amer. Hist.*

341 *pp.*, 6 *x* 9 (1961).....$6.95*t*
*McG-H Paperbacks Ed.**

Here is a candid symposium on American leadership in the field of foreign affairs. It analyzes completely and pointedly twentieth century American diplomacy, its conceptual framework, its strength, and its fundamental weaknesses. The text considers the imprint left on the nation's foreign policies by the American

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** Available only through your local bookstore.*

MOORE—The Frontier Mind

By ARTHUR K. MOORE, Univ. of Kentucky. 288 *pp.*, 5 5/16 *x* 8 (University of Kentucky Press, 1957; McG-H Paperbacks Ed., 1963) $2.15*pb**

Essentially, this book fits into the category of American Civilization. Professor Moore writes in an amusing and highly readable fashion. Daniel Boone and his buckskin compatriots who settled the first trans-Appalachian frontier, Kentucky, provide the human background for this original and uncompromising re-evaluation of the American West.

RAE AND MAHONEY—The United States in World History, 3rd Ed.

By JOHN B. RAE, Harvey Mudd College; and THOMAS H. D. MAHONEY, Massachusetts Institute of Technology. *Series in Amer. Hist.* *In Press*

Presents United States history as an integral part of the history of western civilization specifically and of world history generally. It emphasizes the inter-relationships of ideas and historical forces between the U.S. and the rest of the world. The discussion extends from the discovery of America to the position of the U.S. in the world of the 1960's.

WOLFE—The Image of Man in America

By DON M. WOLFE, Brooklyn College. 482 *pp.*, 5 5/16 *x* 8 (Southern Methodist Univ. Press, 1957; McG-H Paperbacks Ed., 1963) $3.45*pb*

Begins with Jefferson and the Science-of-Man concept and leads up to the present. In order to give the reader a flavor of the times, Professor Wolfe interjects periodically a straight journalistic description of whatever period of American history he happens to be commenting on. These sections are done in italics and serve the dual purpose of providing information and breaking up the usual pattern of straight prose. From this book we learn a great deal about the "true" American character and the American "myth."

DUPUY AND DUPUY—Military Heritage of America

By R. E. DUPUY, United States Army, retired, and T. N. DUPUY, Department of the Army. *Series in Hist.*

748 *pp.*, 6 *x* 9, 125 *maps* (1956).....$8.50*c*

A fascinating, highly readable account of American strategy and tactics beginning with the 18th Century colonial wars and covering American military history through World Wars I and II and the Korean war. The highlights of the major campaigns and battles are drawn boldly against a background of the economic, political, and social situations to show their relationship to wars and military operations.

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HEMPHILL, SCHLEGEL, AND ENGELBERG—Cavalier Commonwealth

History and Government of Virginia

By W. EDWIN HEMPHILL, State Library, Richmond, Virginia, MARVIN W. SCHLEGEL, Longwood College, Farmville, Virginia, and SADIE E. ENGELBERG, John Marshall High School, Richmond, Virginia. Second Edition. 686 *pp.*, 6 3/8 *x* 9 1/4 (1963).....$5.96*s*

This revised second edition is for use in the 11th and 12th grades in Virginia high schools. It covers the history of Virginia from 1580 to the present and the functions and organization of local and state government. The appendix includes the Constitution of Virginia, the Virginia Statute of Religious Freedom, lists of counties and cities with pertinent information, and an extensive bibliography. Each separate section is introduced by a two-page overview and concludes with teaching aids reviewing the main points of the section. Each chapter also contains review questions. This updated second edition is distinguished by a balanced treatment of each period in Virginia history with special attention to Reconstruction and the 20th century. The book has been developed by the School Division in cooperation with the Virginia Legislative Commission on History and Government and the Virginia State Department of Education.

BABCOCK, BABCOCK, AND WILLIAMS—Our Pacific Northwest

By CHESTER D. BABCOCK, Assistant Superintendent of Public Instruction, Washington State, CLARE APPLEGATE BABCOCK, North Thurston School District, Lacey, Washington, and FORBES W. WILLIAMS, Public Schools, Portland, Oregon.

512 *pp.*, 6 3/8 *x* 9 1/4, 250 *illus.* (1963)..$5.48*s*

This is a basic text for state history and government courses in Washington, Oregon, and Idaho. It is a comprehensive study of this region—including history, geography, resources, industries, and government. The organization combines chronological and topical treatment of the subject matter. Study aids include historical vignettes, review questions, projects, and research suggestions.

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HEIMANN—Tobacco and Americans

By ROBERT K. HEIMANN.

278 *pp.*, 8⅛ *x* 11 (1960).....$7.50*t*

When Columbus reached the beaches of San Salvador, the natives offered his men fruit, wooden spears, and "certain dried leaves" which gave off a distinct fragrance. From that time on, tobacco has been an integral part of American history. It was the nation's first business, and today is a multi-billion dollar industry. Here is the story of *nicotiana tobacum*, from the days of the explorers through the filter-tip cigarette. *Handsomely illustrated with photographs, drawings, and engravings. Index.*

SINNOTT—Meetinghouse and Church in Early New England

By EDMUND W. SINNOTT.

244 *pp.*, 7⅛ *x* 9⅞, 200 *illus.* (1963) $10.00*td*

The complex personality of the New England Puritan, says Dr. Sinnott, can best be appreciated through a knowledge of his village meeting place and Congregational house of worship, which began as part of a stockaded fort, developed into the simple eighteenth-century side-entrance meetinghouse, and reached architectural perfection in the typical white-towered and steepled church of the period between 1800 and 1830. One hundred and fifty of the most important and interesting of these structures are described here, in chapters that bring to life the early religious climate, the character of the designers and builders, the construction and subsequent alterations, and the famous pastors, parishioners, and historic events associated with them.

Latin America

DOZER—Latin America

An Interpretive History

By DONALD MARQUAND DOZER, University of California, Santa Barbara.

632 *pp.*, 6 *x* 9, 56 *illus.* (1962)....$10.95*t*†

This text covers the entire span of Latin American history from the period of the Spanish and Portuguese conquests to the present day, but it avoids the country-by-country narrative commonly presented in histories of Latin America. Instead, the author seeks to analyze the problems of modern Latin America and to present his conclusions in historical perspective. He emphasizes the interaction of generalized forces, using individual countries only for illustrative purposes and to deal with over-all trend patterns. The author presents some new and significant interpretations of Latin American history, emphasizes intellectual and ideological concepts, and stresses political, diplomatic, and international relations.

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High School History

FAULKNER AND KEPNER—America

Its History and People

By HAROLD U. FAULKNER, Smith College, and TYLER KEPNER. Fifth Edition.

953 *pp.*, 6 *x* 9, 276 *illus.* (1950).....$6.96*s*

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Correlated Text-Film Series—5 motion pictures (B&W).....$500.00

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FAULKNER, KEPNER, AND MERRILL—History of the American Way

By HAROLD U. FAULKNER, Smith College, TYLER KEPNER, and EDWARD H. MERRILL, Brookline High School, Brookline, Massachusetts.

745 *pp.*, 6 *x* 9, *illus.* (1950).....$4.80*s*

Develops nine major concepts which the authors believe to be basic for an understanding of our American way of life. Together, these concepts provide a chronological story of the country's growth, from its first beginnings as a nation to its present position, facing new problems of peace or war.

FAULKNER AND ROSENTHAL—A Visual History of the United States

By HAROLD U. FAULKNER, Smith College and HERBERT C. ROSENTHAL, Graphics Institute, New York, N.Y. Second Edition.

192 *pp.*, 8½ *x* 11, *illus.* (1961).....$6.00*s*

This book uses charts, graphs, and diagrams and a minimum of words to make history vivid and meaningful. Each pair of facing pages contains about 1000 words of text and one full page of graphic material. These graphics add interest to the subject and emphasize and reinforce the material in each chapter.

CONTENTS—From Settlement to Independence. The Early Growth of Democracy. Division and Reunion, Politics in an Industrial Society, Development of the Industrial Revolution. Intellectual and Cultural Life. Development of United States Foreign Policy. Depression and the New Deal. The United States, a World Power.

LAVENDER, LEWIS, AND SHEFFE—A Thousand Ages

From the Threshold of History to the Beginning of the Modern World

By EMERSON LAVENDER, Nelson High School, Burlington, FRANK LEWIS, A. N. Myer Secondary School, Niagara Falls, Ontario, and NORMAN SHEFFE, Grantham High School, St. Catharines. Revised Edition.

434 *pp.*, 6¼ *x* 9¼, *illus.* (1962).....$4.25

The first two sections of the book deal with the prehistoric development of man and the early civilizations of the Far East and the Middle East. Parts III and IV are devoted to Ancient Greece and Rome. Part V briefly covers the rise of the three great religions of the Mediterranean World. The final section of

† *Textbook edition available at educational list price.*

the book commences with the Renaissance and traces the main features of the Reformation, the Age of Discovery and the growth of national states, ending with the birth of the great powers of Europe.

LAVENDER AND SHEFFE—A Sourcebook for Ancient and Medieval History

By EMERSON LAVENDER, Nelson High School, Burlington, Ontario, and NORMAN SHEFFE, Grantham High School, St. Catherines, Ontario.

180 *pp.*, 6 *x* 9 (1963).....$3.96*s*

A collection of original documents and readings to supplement and enrich ancient and medieval and world history courses at the high school level.

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WAINGER—The American Adventure—1957 Edition

By BERTRAND M. WAINGER, Union College.

744 *pp.*, 6⅜ *x* 9¼, 569 *illus.*, 59 *maps* (1957) $5.20*s*

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UNIT HEADINGS—Europeans Build the Foundations of a New World 1492–1750. The English Colonies Become an Independent Nation 1750–1783. Americans Build a Strong Nation 1780–1824. The Growing Nation Divides into Sections 1824–1860. The Union Is Broken and Restored 1850–1877. The United States Becomes a Great Industrial Nation 1860–1900. Americans Face New Problems 1890–1932. The United States Becomes a World Leader 1920–1957. The American People Look Ahead.

Economic History

BLODGETT AND KEMMERER—Comparative Economic Development

By RALPH H. BLODGETT, University of Florida, and DONALD L. KEMMERER, University of Illinois.

557 *pp.*, 6 *x* 9, *illus.* (1956).....$7.75*c*

This book describes the economies of the United States, Great Britain, Russia, and Germany, and explains how these economies have developed during the past 150 years or more. Historical development and description, rather than economic theory, is emphasized. The four nations under discussion represent four basic types of economy of the past generation—capitalism, welfare state, state socialism, and fascism.

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CLOUGH—Economic Development of Western Civilization

By SHEPARD B. CLOUGH, Columbia University.

540 *pp.*, 6 *x* 9, 78 *illus.* (1959).....$7.90*c*

A historical study of economic growth with emphasis on the factors which led to that growth. Unique in a book of this sort is the fact that the author has gone back to ancient times for the beginning of the story, and that he has carefully woven together European and American economic history so the reader can see what has happened throughout Western civilization. Attention is given to the social, political, intellectual, and artistic consequences of great material well-being.

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KEMMERER AND JONES—American Economic History

By DONALD L. KEMMERER, University of Illinois, and C. CLYDE JONES, Kansas State University.

645 *pp.*, 6 *x* 9, 82 *illus.* (1959).....$7.75*c*

Covers American economic history from 1607 to the present. The authors divide their subject into 4 fairly standard periods and explore the following topics in each period:

population and physical expansion, transportation, manufacturing, capital formation, money and banking, commerce, labor and agriculture. Economic principles are utilized to a greater degree than is usual in most other texts; political and economic history are interrelated wherever desirable.

CONTENTS—Preface. DEPENDENCE AND INDEPENDENCE. Introduction. Resources and Colonization. Colonial Agriculture and Labor. Transportation, Manufacturing, and Capital. Mercantilism, Commerce, and Finance. The Birth of a Nation. Summary of Part One. AN ERA OF FUNDAMENTAL ECONOMIC CHANGE. Introduction. The Westward Movement. The Transportation Revolution. The Agricultural Revolution. The Industrial Revolution. Growth of Long-term Capital. Money and Banking. Labor Awakens. Domestic and Foreign Commerce. Slavery and the Civil War. Summary of Part Two. PROBLEMS OF PLENTY—PRIVATE SOLUTIONS. Introduction. Population Growth and Westward Expansion. The Age of Railway Transportation. Large-scale Manufacturing, Capital and Corporations, Trusts and Taxation. Money and Banking Problems. Expansion of Domestic and Foreign Commerce. Labor's Problems and Progress. The Overexpansion of Agriculture. Summary of Part Three. PROBLEMS OF PLENTY—GOVERNMENTAL SOLUTIONS. Introduction. Growth and Responsibility. Modernization of Transportation and Communications. Expansion in Manufacturing. Capital Expansion and Trusts. Money and Banking. Domestic and Foreign Commerce. The Labor Movement. Agriculture in an Industrial Economy. The Ultimate Achievement. Summary of Part Four. Selective Bibliography. Index.

STUDENSKI AND KROOSS—The Financial History of the United States

By PAUL STUDENSKI, deceased, and HERMAN E. KROOSS, New York University. Second Edition.

605 *pp.*, 6 *x* 9 (1963).....$8.95*c*

The book describes, analyzes and interprets what has happened in the history of government financial activity and policy: government expenditures, revenues, debt operations, debt management, and money and banking. Its purpose is to give the reader an understanding of how and why fiscal policies and monetary policies evolved from their very simple beginnings in the Colonial Period to the complicated system of the 1960's. It carefully looks at the question of whether much of the current revolution in public finance is really new. It includes many controversies of the recent past and present—tax reduction, the question of Federal spending, the effectiveness of monetary policy, the "real bills doctrine," and the relationship of government fiscal policy to boom and recession. History and theory have been interwoven throughout.

CONTENTS—Preface. The Meaning and Basic Trends of Financial History. Part I. From the Colonial Period to the Civil War. Part II. From the Civil War to World War I. Part III. Since World War I. Bibliography. Appendix. Index.

Company and Institutional History

BURLINGAME—Endless Frontiers

The Story of McGraw-Hill

By ROGER BURLINGAME.

545 *pp.*, 6 *x* 9 (1959).....$7.50*t*

The history of McGraw-Hill, from its founding through its present world eminence. Covers all of the various publishing activities engaged in, the personalities that have shaped and guided McGraw-Hill, and how the company has influenced and been influenced by the constantly changing picture of world events. A lively account of a modern communications giant. Roger Burlingame is the author of many books including *Backgrounds of Power; The Human Story of Mass Production, Of Making Many Books,* and *Machines That Built America.*

Engineering History

KIRBY, WITHINGTON, DARLING, AND KILGOUR—Engineering in History

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PRITCHETT—The American Constitutional System
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A comprehensive survey of local government in the developing countries of the world today, this book covers such large topics as organization and structure, national-local relations, finances, elections, administration, community development and metropolitan government. It includes detailed information on local organization and practice in individual countries. There is probably no other book on this subject that has so broad a coverage. It contains relevant information on almost all developing countries including those in the Communist bloc, and the author has utilized all or almost all of the sources of information available in English and in translation to English. The approach is in the direction of making local government more able to take its part in national progress; it suggests workable improvements. The book is readable, written in a simple, direct style.
CONTENTS—Four Basic Patterns. Local Government in the Moslem World of the Near and Middle East. Local Government in Africa. Local Government in Greece. Yugoslavia and Israel—A Contrast. Local Government in the Asian Subcontinent. Local Government in the Far East. Local Government in South and Central America. Functions of Local Government. Financing Local Government. Local Government Personnel. National Control over Local Government. Local Government and National Progress. The Effects of American Economic Aid on Local Government. Local Government ond Communistic Infiltration. Overall Assessment of Local Government in Underdeveloped Nations.

MILLETT—Government and Public Administration
The Quest for Responsible Performance
By JOHN D. MILLETT, Miami University. *Series in Pol. Sc.*
484 *pp.*, 6 *x* 9 (1959).....$7.95*c*

Focuses attention on how American political institutions operate to keep the great apparatus of public administration subject to some degree of political responsibility. The author's principal thesis is that there is an element of separate identity to be observed in practice between the legislature, executive, and judiciary on the one hand—the organs of political decision-making—and the various administrative agencies of government which in their aggregate comprise the bureaucracy.
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MILLETT—Management in the Public Service
The Quest for Effective Performance
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Here is a systematic study of the role of management in the public service from the point of view of the operating official. Emphasis throughout is on the public or governmental aspects of management. The book is based on the fundamental assumption that the primary objective of management is the effective performance of service.
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WALDO—Ideas and Issues in Public Administration
A Book of Readings
By DWIGHT WALDO, University of California, Berkeley. *Series in Pol. Sc.*
462 *pp.*, 6 *x* 9 (1953).....$6.95*c*

Although it is designed to be used with a textbook in public administration, it will also stand by itself as an introduction to the major areas of the subject. Simple, factual information has been avoided in favor of material dealing with the ideas behind the facts and the controversies that make public administration a vital, interesting field of study.
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Police Administration

WILSON—Police Administration, 2nd Ed.
By O. W. WILSON, Dean Emeritus, Univ. of California, Berkeley; and Superintendent of Police, Chicago.
515 *pp.*, 6 *x* 9, *illus.* (1963).....$11.95*t*†

† *Textbook edition available at educational list price.*

This basic guide to sound organization and administration of a police department covers all aspects of the structure and operation of a department. It offers the student efficient, progressive methods of police management and presents a complete plan for superior police administration. The principles described are now being employed in the reorganization of the Chicago Police Department. All chapters have been thoroughly revised and new material has been added. The organization of the book now emphasizes the function of leadership and administration. Although the operational or line functions are indispensable, they cannot provide superior service to the public without sound administrative guidance. Included are descriptions and illustrations of some of the most modern equipment and methods of operations in use anywhere in the world.

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Public Opinion

CHRISTENSON AND McWILLIAMS—Voice of the People

Readings in Public Opinion and Propaganda
By REO M. CHRISTENSON, Miami University and ROBERT O. MCWILLIAMS, Eastern Michigan University. *McGraw-Hill Series in Political Science.*

592 *pp.*, 6 *x* 9 (1962).....$4.95*c*

Specifically designed for the nonspecialist, this penetrating collection of readings discusses the dynamics of the public opinion process, examines the numerous factors which influence or determine opinion, and evaluates the mass media of communication, both as molders and reflectors of public opinion and as instruments of propaganda. It considers the principles, techniques, and effects of propaganda and examines the problems involved in measuring public opinion. The book concludes with a variety of observations on the competence of public opinion to adequately discharge its responsibilities in a free society.

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International Relations

Principles of International Relations

HAAS AND WHITING—Dynamics of International Relations

By ERNST B. HAAS, University of California, Berkeley, and ALLEN S. WHITING, Rand Corporation. *Series in Pol. Sc.*

557 *pp.*, 6 *x* 9, *illus.* (1956).....$7.75*c*

Using a socio-psychological, group-behavior approach, this book offers a systematic survey of all major aspects of international relations from the point of view of the aims of policy-makers.

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SCHUMAN—International Politics

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By FREDERICK L. SCHUMAN, Williams College. Maps by GEORGE D. BRODSKY. Sixth Edition.

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A stimulating, comprehensive introduction to international relations in terms of the origins, forms, forces and prospects of the world-wide community of nations. An unusual amount of attention is given to the continuing problems and recent developments in Latin America, Africa, the Mid-East, India, China, and the Soviet Union. In this sixth edition, a notable new section of chapter length, "An Addenda

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CONTENTS—Treaty of Chaumont. Quadruple Alliance. Treaty of the Holy Alliance. Treaty of Paris. The Triple Alliance. "Reinsurance" Treaty. Dual Alliance of France and Russia. Hague Convention for the Pacific Settlement of International Disputes. Wilson's Fourteen Points. Covenant of the League of Nations. The Treaty of Versailles—Lodge Reservations to United States' Ratification. Constitution of the International Labor Organization. Interpretative Resolution of the Fourth League Assembly. Washington Treaty on the Limitation of Naval Armament. The Nine-Power Treaty. The Four-Power Treaty. The Geneva Protocol. The Locarno Pact. Briand-Kellogg Pact. Franco-Soviet Treaty of Mutual Assistance. The Anti-Comintern Pact. The Munich Agreement. The British Guarantee to Poland. Nazi-Soviet Non-aggression Treaty. The Neutrality Act of 1939. The Atlantic Charter. The Tripartite Pact. The United Nations Declaration. Lend-Lease Agreement of the United States and Great Britain. The Anglo-Soviet Treaty of Alliance. Dissolution of the Comintern. The Moscow Declarations. The Cairo Conference. The Teheran Conference. The Franco-Soviet Treaty of Alliance of 1944. The Crimea (Yalta) Conference. Statement by the Sponsoring Government on Security Council Voting. Charter of the United Nations. Statute of the International Court of Justice. The Berlin (Potsdam) Conference. The Nuremberg Indictment. Moscow Conference of 1945. First Report of the Atomic Energy Commission to the Security Council. The Anglo-French Treaty of Alliance. The Truman Doctrine. The Marshall Plan. The Rio Pact. The Brussels (Western Union) Alliance. The North Atlantic Pact. Bibliographical Note. Index.

KARDELJ—Socialism and War

By EDVARD KARDELJ, Senior Vice-President, Federal Executive Council of Republic of Yugoslavia.

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VANDENBOSCH AND HOGAN—Toward World Order

By AMRY VANDENBOSCH, University of Kentucky and WILLARD HOGAN, State University of Nebraska. *Series in Pol. Sc.*

396 *pp.*, 6 *x* 9, *illus.* (1963).....$7.95*c*

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American Foreign Policy

BLAKE AND BARCK—The United States in Its World Relations

By NELSON MANFRED BLAKE and OSCAR THEODORE BARCK, JR., both, Syracuse University. *Series in Amer. Hist.*

840 *pp.*, 6 *x* 9, 32 *illus.* (1960)....$11.95*t*†

An unbiased history of the United States, from its difficult inception, through its youthful struggles, to its present complex maturity. Here the essential facts are presented, with a clear discussion of all sides of the diplomatic history of the United States from 1776 to 1960. The authors neither justify nor condemn. Rather they endeavor to guide the reader into a thoughtful study of each situation, which will then enable him to form his own, impartial opinions. The text emphasizes the influence on foreign relations of political and economic forces and of changing technology, particularly as they affect national security and the balance of power, as well as the vacillating influence of public opinion.

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International Organization

MANGONE—A Short History of International Organization

By GERARD J. MANGONE, Syracuse University. *Series in Pol. Sc.*

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International Law

SVARLIEN—An Introduction to the Law of Nations

By OSCAR SVARLIEN, University of Florida. *Series in Pol. Sc.*

456 *pp.*, 6 *x* 9 (1955).....$7.50*c*

Traces the evolution of the great and fundamental concepts which constitute the framework of the law of nations and points up new trends in the development of this science. Wherever possible the author has tried to treat each topic, first, in the light of its history; second, in that of its law; and finally in terms of modern trends and developments.

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Anthropology

HOEBEL—Man in the Primitive World

An Introduction to Anthropology

By E. ADAMSON HOEBEL, University of Minnesota. Second Edition.

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By JULIAN H. STEWARD and LOUIS FARON, University of Illinois.

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Treats South American Indians not only in terms of their prehistoric and aboriginal cultures, but also in terms of their culture change or acculturation since the Spanish and Portuguese Conquest, bringing them down to the present day. In the authors' treatment of archaeological or prehistoric materials the emphasis is placed on the sociological meaning of these materials rather than types of pottery, buildings, and art motifs.

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THOMPSON—Toward a Science of Mankind

By LAURA THOMPSON.

276 *pp.*, 5⅝ *x* 8⅜ (1961).....$6.50*c*

In this book, recent theoretical and methodological developments in cultural anthropology are described in modern historical perspective. It goes on to develop an organismic-type working hypothesis on the basis of empirical field research in many parts of the world. It is the intent of this hypothesis to unite cultural and physical anthropology with biology, ecology, the social sciences, the psychological disciplines, and the humanities, in a new, multi-discipline science of mankind.

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conscious: Community Systems Under Stress. CONCLUSIONS. Planning and Human Goals. Toward a Science of Mankind.

History

MURDOCK—Africa
Its Peoples and Their Culture History
By GEORGE PETER MURDOCK, Yale University.
456 *pp.*, 6 *x* 9 (1959).....$12.50*t*†

Surveys the indigenous cultures of the entire continent of Africa and reconstructs the major movements of peoples and developments of culture occurring there since the first appearance of agriculture around 5000 B.C. Thus, the author provides an ethnic and historical background for the understanding of the momentous changes in economy, religion, and government which have characterized Africa during the twentieth century. Special emphasis is placed on the forms of social and political organization, the interchange of food plants between Africa and other regions of the world, and the contributions of the African peoples to world civilization.

CONTENTS—Preface. List of Maps. ORIENTATION. Geography. Race. Language. Economy. Society. Government. History. AFRICAN HUNTERS. Pygmies. Bushmen and Their Kin. East African Hunters. SUDANIC AGRICULTURAL CIVILIZATION. Nuclear Mande. Voltaic Peoples. Plateau Nigerians. NORTH AFRICAN AGRICULTURAL CIVILIZATION. Ancient Egyptians. Berbers. Saharan Negroes and the Caravan Trade. Negroes of the Sudan Fringe. Punic and Greco-Roman North Africa. SYNTHESIS IN THE NILE CORRIDOR. Nubians. Nuba. Prenilotes. Central Ethiopians. Sidamo Peoples. SOUTHWARD EXPANSION OF THE CUSHITES. Southern Cushites. Megalithic Cushites. Ancient Azanians. CULTURAL IMPACT OF INDONESIA. Malagasy. Central Sudanic Peoples. Eastern Nigritic Peoples. Cameroon Highlanders. Southern Nigerians. Twi. Kru and Peripheral Mande. Senegambians. EXPANSION OF THE BANTU. Northwestern Bantu. Equatorial Bantu. Mongo and Luba. Central Bantu. Northeast Coastal Bantu. EAST AFRICAN PASTORALISM. Beja. Afar and Somali. Galla. Nilotes. SPREAD OF PASTORALISM TO THE BANTU. Kenya Highland Bantu. Interlacustrine Bantu. Tanganyika Bantu. Middle Zambesi Bantu. Southwestern Bantu. Shona and Thonga. Nguni. Sotho. NORTH AND WEST AFRICAN PASTORALISM. Bedouin Arabs. Tuareg. Baggara. Fulani. Key to Bibliographical Abbreviations. Index to Tribal Names.

Sociology

McGRAW-HILL SERIES IN SOCIOLOGY

(Series in Sociol.)

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Professor of Sociology, Stanford University

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Professor of Sociology, Stanford University

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Tappan—Crime, Justice and Correction
Tappan—Juvenile Delinquency
Thompson—Population Problems
Vernon—Sociology of Religion

Principles of Sociology

BERGEL—Social Stratification
By EGON BERGEL, Springfield College.
Series in Sociol.
480 *pp.*, 6 *x* 9 (1962).....$7.95*c*

Although the text gives special attention to the contemporary American scene, all phases and aspects of social stratification are treated—the past and the present; castes and estates; classes in China, in Western Europe and in Soviet Russia. The stress on the fact that classes represent specific sub-cultures within a nation is a particularly distinct feature of the book. Differences in attitudes and behavior, in life chances and life style, in cultural interests and cultural achievements are analyzed and evaluated. Evidence presented by both American and foreign writers is extensively used throughout the book.

CONTENTS—Preface. Introduction. Basic Concepts. The Constituent Elements of Group Hierarchies. The Problem of Function. CASTE AND ESTATE. The Caste System: Caste: I; Caste: II. B. The Estate or Order System: The Basic Division, Freedom and Bondage; The Estate System in General; The European Estate Systems. THE CLASS SYSTEM. The Breakdown of the Estate System; The Persistence of Stratification. Classes as Natural Strata. Classes as Economic Strata. Classes as Political Strata. TYPES OF CLASS SYSTEMS. Classes in Europe and Asia. The American Class System: Origin and General Characteristics. The American Class System; Composition and Distribution. The Position of Intellectuals in a Class System. Integration and Dissociation, Class Cooperation and Class Antagonism. DYNAMICS. Social Mobility, I. Social Mobility, II. CLASS AND CULTURE: The Problem of Class Reality. Classes as Cultural Groups, I. Classes as Cultural Groups, II. Classes as Cultural Groups, III. CONCLUSION. Recapitulation and Conclusions. Bibliography. Name Index. Subject Index.

BIERSTEDT—The Social Order, 2nd Ed.
An Introduction to Sociology
By ROBERT BIERSTEDT, New York Univ.
620 *pp.*, 6 *x* 9, *illus.* (1963).....$10.50*t*†

A leading introduction to systematic sociology. This book is mainly concerned with the common elements and constant features which give to society its form and shape, which constitute its structure, and which comprise the social order. It is unique in that it focuses entirely upon society, its structure and its changes, and avoids concerns which are psychological, economic, political, or anthropological. It represents an effort to introduce into our knowledge of society the same cen-

† *Textbook edition available at educational list price.*

trality and significance which characterize the social order itself. The book retains the readability and the systematic organization that characterized the first edition, and once again is free from jargon, graphs, charts, and statistical summaries. It contains classical and literary allusions in profusion and all of the material has been updated and revised. The author has added two new chapters, one on population, "The Demographic Factor," and the second on socialization, "The Acquisition of Culture."

CONTENTS—INTRODUCTION: The Science of Sociology. THE NATURAL CONDITIONS OF HUMAN SOCIETY: The Geographic Factor. The Biological Factor. The Demographic Factor. CULTURE AND SOCIALIZATION: The Meaning of Culture. The Content of Culture. The Acquisition of Culture. SOCIAL ORGANIZATION: Norms, Statuses, Groups, Associations and Institutions. SOCIAL DIFFERENTIATION: Women and Men. The Family. City, Country and Suburb. Class and Caste. Color and Creed. Society and Its Institutions. SOCIAL CHANGE: The Problems of Social Change. Selected Readings. Name Index. Subject Index.

EBERSOLE—American Society
An Introductory Analysis
By LUKE EBERSOLE, University of Tennessee.
510 *pp.*, 6 *x* 9 (1955).....$6.95*c*

The purpose of this book is to provide a comprehensive study of American society. It is in concurrence with the frequently expressed need in introductory courses for the more direct application of sociological findings. It brings to that understanding selected insights, concepts, and methods of social analysis. Population, communities, classes, and institutions in the United States are treated with emphasis on continuity and change.

CONTENTS—Preface. INTRODUCTION. An Approach to American Society. PEOPLE. Population Origins. Immigrant Americans. American Minority Peoples. Population Composition and Distribution. Population Growth. COMMUNITIES. Rural Communities. Rural Group Life. Urban Communities. The Urban Way of Life. Metropolitan Communities. CLASSES. Social Stratification. Social Mobility. INSTITUTIONS. Family Institutions. Economic Institutions. Government Institutions. Educational Institutions. Religious Institutions. CONCLUSION. American Society in Process. Index.

GREEN—Sociology
An Analysis of Life in Modern Society
By ARNOLD W. GREEN, formerly Professor of Sociology, The Pennsylvania State University.
Third Edition.
672 *pp.*, 6⅜ *x* 9¼, 259 *illus.* (1960)..$7.50*c*
Study Guide (Matson).....$2.75*c*
Correlated Text-Film Series—five motion pictures.....$445.00

The student's interest in his own past, present, and probable future experiences are capitalized upon in this text. Anthropological and historical materials are used fairly extensively but always for the purpose of drawing comparisons or tracing development.

CONTENTS—Introduction: The Field of Sociology. MAN AND HIS WORLD. The Organism and Its Physical Environment. Society. Interaction: The Social Processes. The Universality of Culture. The Variability of Culture. The Organism Becomes a Person: Socialization. The Structure and Unity of Personality. NUMBERS, DISTRIBUTION AND ORGANIZATION OF PEOPLE. Population. Class and Caste. Class and Mobility in America. America's Minorities. The Modern Community Trends. The Division of Labor. SOCIAL INSTITUTIONS. The American Economic Order. The American Political Order. The Family: A Comparative View. The Changing American Family. Courtship and Marriage in America. Religion. Religion in America. Education. The Law and Social Control. The Law and Crime and Punishment. Recreation in America. SOCIAL CHANGE. The Explanation of Social Change. Social Movements.

HORTON AND HUNT—Sociology
By PAUL B. HORTON and CHESTER L. HUNT, both Western Michigan Univ.
In Press

Provides a readable introduction to the basic principles and descriptive materials of sociology. Interpretative questions and projects are included after every chapter. There are numerous examples and illustrations.

ROSS—Perspectives on the Social Order
Readings in Sociology
Edited by H. LAURENCE ROSS, New York Univ.
465 *pp.*, 7 *x* 10 (1963).....$5.95*cg*
Soft-cover Ed. $3.95*cg*

Presents a balance of classical and contemporary selections, reproduced in full with few exceptions. It includes an original article on career opportunities in sociology plus contributions from anthropology, history, economics, and other related fields. Editorial commentary is extensive.

CONTENTS—INTRODUCTION. The Nature of Sociology. THE NATURAL CONDITIONS OF SOCIETY. The Geographic Factor. The Biological Factor. The Demographic Factor. CULTURE. The Meaning of Culture. The Content of Culture. The Acquisition of Culture. SOCIAL ORGANIZATION Norms. Statuses. Groups. Associations. SOCIAL DIFFERENTIATION. Women and Men. The Family. City, Country and Suburb. Class and Caste. Color and Creed. Society and Its Institutions. SOCIAL CHANGE. The Problem of Social Change. Appendix: "To Be a Sociologist."

Industrial Sociology

SCHNEIDER—Industrial Sociology
The Social Relations of Industry and the Community
By EUGENE V. SCHNEIDER, Bryn Mawr College. *Series in Sociol.*
535 *pp.*, 6 *x* 9, 5 *illus.* (1957).....$7.50*c*

Here, the author depicts the social structure of the large-scale industrial organization, and the relations between this social structure and the individuals who work within the organization; explains how labor unions are related to and arise from the social structure and social relations of industry; and shows how industry (including labor) affects and is affected by the community, both local and national. An attempt is made to include and analyze a wide range of material within the framework of a single, consistent body of social theory.

CONTENTS—Introduction. SOCIAL THEORY AND PRODUCTIVE SYSTEMS. Industry and Sociological Theory. Types of Productive Systems. The Development of Industry in the United States. THE SOCIAL STRUCTURE OF INDUSTRY. The Industrial Bureaucracy. The Executive in the Industrial Bureaucracy. "Minor" Roles: The Specialist, the Office Worker, the Foreman. The Role of the Worker; Industrial Production and the Worker's Role. The Role of the Worker: Social Relations at Work. THE SOCIAL STRUCTURE OF TRADE-UNIONISM. Development of Trade-Unionism in the United States. Contemporary American Trade-Unionism. The Functions of Unionism: Unionism as an Instrument of Power. The Functions of Unionism: Collective Bargaining. Theories of the Labor Movement. INDUSTRY AND SOCIETY. Industry and Community. Industry and Social Stratification. Industry and Minority Groups. Industry and the Family. Industry and Government. Industrialism and Social Change. Index.

Rural and Urban Sociology

BERGEL—Urban Sociology
By EGON ERNEST BERGEL, Springfield College. *Series in Sociol.*
558 *pp.*, 6 *x* 9, *illus.* (1955).....$7.75*c*

Views urban sociology as a study of people who share a way of life which may be called

"urbanism" rather than a study of "the city" and focuses on the social rather than the physical phenomena of contemporary American life. It contains descriptions of social organization and planning in other countries. It is a thoughtful contribution to sociological literature.

CONTENTS—Preface. INTRODUCTION. Definitions and Basic Concepts. HISTORICAL APPROACH. The Rise of the Cities. EMPIRICAL APPROACH. The Patterns of Two World Cities. SOCIAL GEOGRAPHY. The Location of Cities. Ecological Patterns of the City. Dynamics: Changes in Ecological Patterns. TYPOLOGY. Size, Density, Spatial Types. Functional Types. DEMOGRAPHY. The Urban Class System. Races and Nationalities. Population Movements and Domestic Migration. Immigration. The Problems of the Composite City. THE URBAN FORMS OF BASIC INSTITUTIONS. The Urban Family. Urban Religion. Urban Recreation. THE RULE OF THE CITY. City Government. URBAN PATHOLOGY. Death and Diseases. Vice, Crime, and Political Corruption. Slums. THERAPY. Housing. Planning. Community Organization. EPILOGUE. The Future of Urban Life. Selected Readings. Author Index. Subject Index.

BERTRAND—Rural Sociology
An Analysis of Contemporary Rural Life
Edited by ALVIN L. BERTRAND, Louisiana State University; and ASSOCIATES.
454 *pp.*, 6 *x* 9, 51 *illus.* (1958).....$7.95*c*

In this book the author and 16 associates present American rural society of today, as it is, dynamic and in transition. Thus, the impact of population shifts, technology, modern means of communication, formal education, and contemporary agricultural policy is explored. The central focus of the book is the swift change taking place in rural areas of the nation.

CONTENTS—Preface. INTRODUCTION. Introduction. Social Organization and Rural Social Organization. The Nature of Rural-urban Differentials. Rural Social Values and Norms. THE RURAL POPULATION AND RURAL LOCALITY GROUPS. The Rural Population. Neighborhood and Community Organization and Trends. Community Development Programs. The Regional Approach to the Study of Rural Populations. SOCIAL DIFFERENTIATION AND PARTICIPATION IN RURAL AREAS. Social Stratification in Rural Society. Social Participation in Rural Society Land Division and Titles. Land-tenure Systems and Problems. Social Patterns and Systems of Farming. THE MAJOR RURAL SOCIAL INSTITUTIONS. The Family: Characteristics and Trends. Rural Education: Characteristics and Trends. The Rural Church: Characteristics and Problems. Local Government: Characteristics and Problems. Social Aspects of Production and Marketing in Rural Areas. Social Aspects of Health and Welfare in Rural Areas. SOCIAL PROCESSES AND SPECIAL-INTEREST GROUPS IN RURAL AREAS. Cooperation and Opposition in Rural Society. Accommodation, Assimilation, and Acculturation. The Characteristics and Functions of Special-interest Groups. SOCIAL MOVEMENTS AND SOCIAL CHANGE IN RURAL AREAS. The Farmers' Movement. Communication and Technological Change in Rural Society. The Process of Acceptance of Technological Innovations in Rural Society. Agricultural Technology and Rural Social Change. Rural-urban Interaction and Rural Social Change. RURAL SOCIOLOGY IN PERSPECTIVE. Rural Sociology at Mid-Century. Name Index. Subject Index.

Social Theory

LaPIERE—A Theory of Social Control
By RICHARD T. LAPIERE, Stanford University. *Series in Sociol.*
568 *pp.*, 6 *x* 9 (1954).....$8.50*c*

Develops an integrated theory concerning the nature and the role of social control as one of the three major determinants of human conduct, the others being personality and situation. A wealth of illustrative material accompanies the theoretical statement and the entire subject is introduced by three comprehensive, explanatory chapters. This unique contribution of textbook and treatise is valuable to students and social scientists alike.

CONTENTS—Part I. INTRODUCTION. The Problem and Its Setting. The Cultural Basis of Social Control. The Components of Behavior: Personality, Situation, and Social Control. Part II. THE NATURE AND OPERATION OF SOCIAL CONTROL. The Dimensions of Social Status. Status Groups and Their Norms. Status-Group Norms and Values. Status-Group Structure and Dynamics. Morale and Social Control. The Techniques of Social Control I: I. Basic Processes. The Techniques of Social Control: II. Ideological Control in the Status-Group System. Part III. SOCIAL CONTROL AND COUNTERCONTROL. Social Isolation. Social Ascendancy. Autocratic Control. Democratic Control. Conquest: Military and Economic. Conquest: Cultural. Social Crisis, Demoralization, and Control.

NORDSKOG—Social Change
Text and Readings
By JOHN ERIC NORDSKOG, University of Southern California.
423 *pp.*, 6 *x* 9 (1960).....$7.95*c*

Presents basic sociological principles of social change and examines several specific areas of change which involve fundamental social institutions. Throughout the book the textual development and the readings have been integrated to maintain structural unity.

CONTENTS—Introduction to Social and Cultural Change. The Challenge of Population Growth. How Culture Changes. Conceptions of Social Progress. Ideas and Ideologies. Changes in Economic and Political Values. Changes in Religion and Law. War and Peace. Civilization on Trial. Index.

Social Problems

GORDON—Social Class in American Sociology
By MILTON GORDON, Univ. of Massachusetts.
304 *pp.*, 5 5/16 *x* 8 (Duke University Press, 1958; McG-H Paperbacks Ed., 1963) $2.95*pb*

Uses of the concept of class by American sociologists as an analytic technique, and as a response to influences of European sociology.

LEMERT—Social Pathology
A Systematic Approach to the Theory of Sociopathic Behavior
By EDWIN M. LEMERT, University of California, Los Angeles. *Series in Sociol.*
459 *pp.*, 6 *x* 9, 12 *illus.* (1951).....$7.50*c*

Delimits the field of sociopathic behavior and provides a systematic theory for its analysis. What has previously been treated as social disorganization is here conceived as forms of social differentiation and deviation. While narrower in scope than many social problems textbooks, it permits the logical integration of its subject matter into the more general field of sociology.

CONTENTS—Preface. PART ONE: Theory. Introduction. Deviation and Differentiation. The Societal Reaction. Sociopathic Individuation. PART TWO: Deviation and Deviants. Blindness and the Blind. Speech Defects and the Speech Defective. Radicalism and Radicals. Prostitution and the Prostitute. Crime and the Criminal. Drunkenness and the Chronic Alcoholic. Mental Disorders. Appendix: Suggested Outline to Be Followed in Studying and Writing the Life History of a Deviant. Glossary. Index.

LUCIA—Alcohol and Civilization
Edited by SALVATORE P. LUCIA, Univ. of California School of Medicine.
408 *pp.*, 6 *x* 8 1/4 (1963).....$7.50*t*
*McG-H Paperbacks Ed.**

Based on the proceedings of an international symposium held in 1961, these papers present a broad, scientific discussion of the role of alcohol and alcoholic beverages in civilization. Instead of being merely denounced or defended as "the cause" of alcoholism, alcohol was examined scientifically as a chemical substance,

a foodstuff, and a drug having psycho-physical effect of great importance to man. Each chapter is a fact-full paper presented by one of the participants, or covers an inter-disciplinary discussion of the significance of this research to medicine, to law, to nutrition, and to sociology. Contributors include: Claudia Balboni, J. Anthony Deutsch, Chancey D. Leake, Giorgio Lolli, Jules H. Masserman, John N. Murtagh, Karl Pribram, Berton Roueche.

CONTENTS—Preface. Introduction. The Effects of Alcohol on the Body. Alcohol and the Mind. The Social Implications of Alcohol. Alcohol in Our Society. Specific Viewpoints (Panel Discussions). Interdisciplinary Viewpoints (Panel Discussions).

* *Available only through your local bookstore.*

Social Psychology

CURTIS—Social Psychology

By JACK H. CURTIS, University of San Francisco.

435 *pp.*, 6 *x* 9 (1960).....$7.50*c*

This book demonstrates that social psychology is a valid scientific body of knowledge in its own right. The parent sciences of sociology and psychology only serve to enrich its content. This Catholic textbook retains Catholic values on the nature of man, yet maintains the scientific standards of both sociology and psychology. The "interactionist" approach is used.

CONTENTS—PREFACE. INTRODUCTION. The Field of Social Psychology. Theory in Social Psychology. The Tools of Social Psychology. Philosophical Forerunners. The Parent Schools in Sociology and Psychology. The Tributary Schools in Psychiatry and Anthropology. Values and Postulates in Social Psychology. PERSONALITY. The Biological Organism. Social Learning and Adjustment. The Self and Motivation. The Relationship of Culture and Personality. Life Experiences in Age Group. Normalcy and Deviation. COLLECTIVITY. Interaction and Leadership in Small Groups. Collective Behavior. Man in the Modern World. TOPICAL OUTLINE. INDEX.

Sociology of Religion

VERNON—Sociology of Religion

By GLENN M. VERNON, University of Maine. *Series in Sociol.*

432 *pp.*, 6 *x* 9, *illus.* (1962).....$7.95*c*

This text is an introduction to the sociology of religion, on the junior-senior undergraduate level. It applies sociological theory and concepts to the study of certain aspects or dimensions of religion. The book focuses upon man as a social being who engages in religious behavior. Major attention is given to the social conditions or variables related in some way to this religious behavior. Thus religion is viewed as an interacting element in a larger socio-cultural setting. The author is concerned in this book, with exploring the religious dimensions of man's relationship to man, rather than providing answers to value questions or to religious questions about the supernatural.

CONTENTS—SOCIOLOGICAL APPROACH TO THE STUDY OF RELIGION. How the Sociologist Studies Religion. Religion, Culture and Symbolic Interaction. SOCIOLOGICAL CHARACTERISTICS OF RELIGION. A Sociological Definition of Religion. Power in the Unknown World—Religion and Magic. Religion and Social Order. Religion and the Individual. Religion and Potential Disorganization. Religion and Potential Disorganization (continued). Organization of Religious Groups. Religious Leadership. Specialization and Socio-cultural Compatability. Religion in the United States. Measuring Religion. RELIGION AND OTHER SOCIAL INSTITUTIONS. Religion and Government. Religion and Education. Religion and Economic Factors. Religion and Marriage. Religion and Marriage (continued). Religion and Stratification.

Criminology and Juvenile Delinquency

TAPPAN—Contemporary Correction

By PAUL W. TAPPAN, New York University. *Series in Sociol.*

434 *pp.*, 6 *x* 9, 25 *illus.* (1951).....$7.90*c*

A distinguished symposium with chapters by the author and thirty-one of the most outstanding experts in the field. Emphasis is on practical methods as well as theory, with relatively little space devoted to historical penology.

CONTENTS—Part I. CORRECTION: PRELIMINARY CONSIDERATIONS. Objectives and Methods in Correction. Correctional Statistics. Training of the Correctional Worker. The Criminal Court and the Correctional System. Part II. ADMINISTRATIVE ORGANIZATION AND CLASSIFICATION. The Federal Prison System. State Organization for Correctional Administration. Classification in the Prison System. Reception Centers. The Youth Authority Plan: Its Development and Prospects. The Service Unit. Part III. PROGRAMS IN THE CORRECTIONAL INSTITUTION. Custody and Discipline. Medical Services. Psychiatric, Psychological, and Case-work Services. Group Therapy. Education. Employment and Labor. Religion and the Chaplain. Part IV. TYPES OF CORRECTIONAL INSTITUTIONS. Prison Architecture and Function. Women's Institutions. The Jail and Misdemeanant Institutions. Reformatories and the Borstal System. Juvenile Detention and Training Institutions. Part V. EXTRAMURAL TREATMENT. Parole and Services to the Discharged Offender. Probation: Case Work and Current Status. Crime Prevention: A Confusion in Goal. The Future of Correctional Work in America. Index.

TAPPAN—Crime, Justice and Correction

By PAUL W. TAPPAN, Chairman, Department of Sociology and Anthropology, New York University, Washington Square College. *Series in Sociol.*

781 *pp.*, 6 *x* 9, *illus.* (1960).....$11.95*r*†

The book presents a well-balanced synthesis of theories of the behavioral sciences in its interpretation of crime and its treatment. In addition, all relevant data and theory in psychology, sociology (including forensic psychiatry and legal sociology), and jurisprudence are brought together to illuminate the material. The arrangement of the material reflects too the special nature of the author's contribution. General material on prevention and treatment precedes the more particular analyses of the prime methods of correction, an arrangement which the author believes will increase the reader's understanding of correctional measures. Imprisonment and parole are treated separately, and in this order, the sequence in which they occur.

CONTENTS—CRIME AND CAUSATION. Crime, the Criminal, and Criminal Law. The Prevalence and Distribution of Crime Causation. Physical, Constitutional, and Hereditary Factors. Psychopathology and Crimes Against the Person. Personality Deviations and Crime. Social-Cultural Theory. Social Factors in Crime. Property Offenders: Typologies. THE ADMINISTRATION OF JUSTICE. Objectives of Sentencing and Correction. The Police and Crime Detection. Judicial Procedures. Justice and Efficiency. Special Problems of Justice. Sanctions and Sentencing. Improving the Dispositions Process. CORRECTION. Special Measures of Prevention. Treatment and Prevention. Probation. The History of Imprisonment. Correctional Institutions and Classification. The Prison Program. Parole.

TAPPAN—Juvenile Delinquency

By PAUL W. TAPPAN, New York University. *Series in Sociol.*

615 *pp.*, 6 *x* 9, 19 *illus.* (1949).....$7.95*c*

Approaching the problem from its social, psychological, and legal aspects, this text for students of sociology defines juvenile delinquency, and discusses the various methods by which

† *Textbook edition available at educational list price.*

the delinquent is treated. Legal considerations are strongly emphasized.

CONTENTS—Part I: The Nature and Extent of Delinquency. The Nature of Juvenile Delinquency. Extent of Delinquency. Part II: Causation in Delinquency. The Problem of Cause. Causes and Conditions of Delinquency: General. Causes and Conditions of Delinquency: Biological Etiology. Causes and Conditions of Delinquency: Social Variables in the Etiology of Delinquency. Part III. The Delinquent in Court. The Juvenile Court. Confusion in the Court. Courts for Adolescents. The Judge and the Dispositions Process. Part IV. Treatment of the Delinquent. Motives in Correctional Treatment. Probation. The Rise of Social Work. Juvenile Detention. Institutional Treatment: Its Deficiencies. Institutional Treatment: An Effective Institutional Program. The Prevention of Delinquency: Through Social Institutions. The Prevention of Delinquency: Official Methods. Appendixes: A. Cases. B. Statutes. C. Case Records. Bibliography. Name Index. Subject Index.

Marriage and Family

BABER—Marriage and the Family

By RAY E. BABER, deceased. *Series in Sociol.* Second Edition.

719 *pp.*, 6 *x* 9, 12 *illus.* (1953).....$7.95*c*

Designed to contribute to the better understanding and therefore success of marriage and family life through a study of the structure, functions, and social processes of the family, and through an analysis of the available research data. Clearly organized and logically written, the text presents an impartial psychosociological analysis of the problems involved in marriage.

CONTENTS—The Family in Transition. Early American Family Life. A Medley of Marriage Laws. Mate Selection and Courtship. Mate Selection and Courtship (Continued). The Husband-Wife Relationship. The Husband-Wife Relationship (continued). Parent-Child Interaction. Parent-Child Interaction (continued). The Status of Women: Occupational. The Status of Women: Role Confusion. Some Economic Aspects of Family Life. Divorce. Divorce (continued). Determinants of Family Size. Conflicting Sex Patterns. Irregular Sex Expression: Social Costs. The Conservation of Family Values. Name Index. Subject Index.

BOWMAN—Marriage for Moderns

By HENRY BOWMAN, University of Texas. *Series in Sociol.* Fourth Edition.

545 *pp.*, 6 *x* 9, 109 *illus.* (1960)....$10.50*t*†

Correlated Text-Film Series—eight motion pictures.....$830.00

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This text is addressed to young people of college age and discusses their problems in their own terms. The approach to the subject of marriage is positive, constructive and functional; it considers the reader as a prospective participant in marriage as distinguished from an observer of marriage.

CONTENTS—Foreword. Preface. A Point of Departure. THE BACKGROUND OF MARRIAGE. Marriage in Modern America. To Marry or Not to Marry. Maturity and Age for Marriage. PARTNER SELECTION AND MARRIAGE PREPARATION. Dating and Engagement. Petting and Premarital Sexual Relations. Choosing a Marriage Partner. Elements of Difference in Choosing a Marriage Partner. Beginning Marriage. BASIC COMPONENTS OF MARITAL ADJUSTMENT. Adjustment in Marriage. Sex in Marriage. The Use of Money and Leisure Time. Reproduction. Family Living. MARRIAGE WITH SPECIAL PROBLEMS. Young Marriage Today. Divorce. Epilogue. Tables of Marriage and Divorce Laws.

FREEDMAN, WHELPTON, AND CAMPBELL—Family Planning, Sterility, and Population Growth

By RONALD FREEDMAN, The University of Michigan; PASCAL K. WHELPTON, Miami University; and ARTHUR A. CAMPBELL, Miami University. *Series in Sociol.*

515 *pp.*, 6 *x* 9 (1959).....$12.50*i*

The first description of the aspects of family growth treated at a national level. On the basis of interviews with approximately 2,700 married women under 40 a description is given of: the number of children American couples of differing backgrounds want and expect, the extent to which their desires are realized, or are frustrated by sterility or ineffective planning, and the methods of control that they use to plan family growth.

CONTENTS—Preface. Background and Nature of the Study. Sterility and Fecundity of American Families. The Use of Methods to Regulate Conception. Family Limitations: The Social and Economic Correlates. Attitudes Toward Family Limitation. The Methods of Family Limitation Used by American Couples. Expected Family Size: Principal Findings and Trends. The Influence of Fecundity Impairments and Family Planning on Number of Children. Family Size in Different Social and Economic Groups. Future Trends in Family Size—A Longer and Broader View. Population Growth, 1955 to 2000. What It All Means: An Overview. APPENDIX. Technical Notes. The Questionnaire. Sampling Methods and Sampling Errors. The Classification of Couples by Fecundity. The Accuracy of Reporting on Use of Contraception. Method of Determining Most Likely, Minimum, and Maximum Numbers of Births Expected. Procedures Relating to Forecasts of Births and Population. Glossary. Index.

LANDIS—Your Marriage and Family Living

By PAUL H. LANDIS, State College of Washington. *Amer. Home and Fam. Series.* Second Edition.

388 *pp.*, 6 *x* 9, 185 *illus.* (1954).....$4.96*s*

Correlated Text-Film Filmstrip Series—five 35mm silent filmstrips.....$27.50

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A text for eleventh and twelfth grade classes in family life—both social studies and home economics—dealing with changes in the family, dating, mate selection, marriage, parenthood, and family problems. All aspects of the family life program are discussed: the importance of family relationships today, the range of problems and decisions young people encounter, and the current problem of relationships in a time of compulsory military service.

CONTENTS—What Marriage and Family Mean Today. Dating Days. Making Choices. Making Marriage Work. Planning for Parenthood. Family Problems. Glossary. List of Visual Aids.

Population

THOMPSON—Population Problems

By WARREN S. THOMPSON, formerly Miami University. *Series in Sociol.* Fourth Edition.

488 *pp.*, 6 *x* 9, 15 *illus.* (1953).....$7.95*c*

This fourth edition of the standard work in its field presents a discussion of matters which relate to the growth and change in population groups, with emphasis upon the meaning of population changes and trends in population development. No effort is made to present a general theory of population; however, at many points the author indicates his opinion regarding the theoretical significance of the facts.

CONTENTS—Introduction. Population Control in Past Times. The Population Doctrines of Malthus. Some Post-Malthusian Theories of Population. Famine, Disease, and War as Factors in Population Growth. Population Growth and the Industrial Revolution. The Composition of Population. The Composition of the Negro Population in the United States. Natality. The Differential Birth Rate. Factors in the Decline of the Birth Rate. Mortality. Natural Increase and Its Probable Future Trend. International Migration. Internal

† *Textbook edition available at educational list price.*

Migration. Population Growth and Agriculture. Industry and Commerce as Bases for the Support of Population. Population Growth and International Politics. The Future Growth of Population in the United States and Some of Its Consequences. Factors in the Growth of the Modern City. The Future of the Large City. The Problem of Quality. Population Policy. Index.

Race and Culture Relations

DAVIE—Negroes in American Society

By MAURICE R. DAVIE, Yale University. *Series in Sociol.*

542 *pp.*, 6 *x* 9¼ (1949).....$7.50*c*

This book provides an understanding of the perplexing problem on Negro-white relations, the social and economic history of the South; the reaction of the Negro to each historical change; the doctrine of racial inferiority, the Negro class system, and race politics.

PARTIAL CONTENTS—Slavery in the United States. Economic Status of the Negro. The Education of the Negro. Housing Conditions Among Negroes. Negro Criminality. Negro Suffrage. Segregation and Discrimination. Lynching and Race Riots. The Doctrine of Racial Inferiority. Race Mixture and Intermarriage. and The Negro's Reaction to His Status.

Research in Sociology

GOODE AND HATT—Methods in Social Research

By WILLIAM J. GOODE, Columbia University, and PAUL K. HATT, Northwestern University. *Series in Sociol.*

380 *pp.*, 6 *x* 9, 32 *illus.* (1952).....$6.95*c*

Designed to introduce the student to modern research techniques in the field of sociology. It combines a descriptive presentation of research with the elements of research techniques. The book presents clearly and understandably the basic logic of scientific research, and the application of that logic to the particular problems of sociology.

CONTENTS—The New Sociology. Science: Theory and Fact. Values and Science: Pure and Applied. Basic Elements of the Scientific Method: Concepts. Basic Elements of the Scientific Method: Hypotheses. Design of Proof: Testing the Hypotheses. Further Problems in Research Design. Use of the Library (by Joseph S. Komidar). Observation. Constructing a Questionnaire. The Mailed Questionnaire. The Interview. Probability and Sampling. Scaling Techniques: The Basic Problem. Scaling Techniques: Social Distance. Sociometric, and Rating Scales. Scaling Techniques: Ranking, Internal Consistency, and Scalogram Scales. Research in Population. Some Problems in Qualitative and Case Analysis. The Analysis of Data. Preparing the Report. Index.

Social Work

YOUNG—Out of Wedlock

A Study of the Problems of the Unmarried Mother and Her Child

By LEONTINE R. YOUNG, the Ohio State University.

McG-H Paperbacks Ed. $1.95*pb**

This is the first scientific, book-length treatment of the subject. Presented from the general psychiatric point of view, the text is written primarily for social workers and others directly concerned with the problem. The chief emphasis is placed upon the psychological causes for the behavior of unmarried mothers, studied in the social and cultural context of present-day society. Observations and study of several hundred cases have provided the source of the material.

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* *Available only through your local bookstore.*

Humanities

JONES, BECKNER, FOGELIN, AND SONTAG—Approaches to Ethics

Edited by W. T. JONES, MORTON BECKNER, ROBERT FOGELIN, and FREDERICK SONTAG, all of Pomona College.

592 *pp.*, 6⅝ *x* 9¾ (1962).....$7.50*c*

This anthology presents all significant ethical theories from the classical through the contemporary period and offers a comprehensive set of readings, exhibiting the widest possible range of perspective within the field. The material is organized chronologically into five periods: Classical, Medieval, Early Modern, 19th Century, and 20th Century, with general introductions to the periods and brief biographical sketches of the ethicists involved. Each selection is edited to give the reader a complete, though abbreviated, view of the philosophers' ethical theory as a whole.

CONTENTS—Preface. Syllabi. Introduction. PART ONE: THE CLASSICAL PERIOD: Introduction. Plato *The Republic. Philebus.* Aristotle *Nicomachean Ethics.* Epicurus *Letter to Herodotus. Letter to Menoeceus. Principal Doctrines.* Epictetus *The Encheiridion.* Plotinus *The Enneads.* PART TWO: THE MIDDLE AGES: Introduction. Tertullian *In Praise of Purity.* St. Jerome *Scolding a Monk for Having Abandoned the Desert.* Boethius *The Consolation of Philosophy.* St. Augustine *The Happy Life. The Enchiridion. The City of God.* St. Anselm *Monologium.* St. Bernard of Clairvaux *The Steps of Humility.* St. Thomas Aquinas *Summa Contra Gentiles. Summa Theologica.* Meister Eckhart *The Talks of Instruction. About Disinterest.* PART THREE: THE EARLY MODERN PERIOD: Introduction. Niccole Machiavelli Aphorisms on the Nature of Man. *The Prince. The Discourses.* Thomas Hobbes *Leviathan.* Benedict Spinoza *Ethics.* John Locke *Essay Concerning Human Understanding.* Joseph Butler *Sermons.* David Hume *Treatise of Human Nature. An Inquiry Concerning the Principles of Morals. Essays, Moral and Political.* Immanuel Kant *Lectures on Ethics.* PART FOUR: THE NINETEENTH CENTURY: Introduction Jeremy Bentham *An Introduction to the Principles of Morals and Legislation.* Georg Wilhelm Friedrich Hegel *The Philosophy of History.* Arthur Schopenhauer *The World as Will and Idea.* John Stuart Mill *Utilitarianism.* Soren Kierkegaard *Either/Or The Sickness unto Death. Concluding Unscientific Postscript.* Herbert Spencer *The Data of Ethics.* Henry Sidgwick *The Methods of Ethics.* Friedrich Nietzsche *Sounding Out Idols.* Francis Herbert Bradley *Ethical Studies.* PART FIVE: THE CONTEMPORARY PERIOD: Introduction. Sigmund Freud *Civilization and Its Discontents.* John Dewey *Reconstruction in Philosophy. The Quest for Certainty. Theory of Valuation. Reconstruction in Philosophy.* Edward Alexander Westermarck *Ethical Relativity.* H. A. Prichard *Does Moral Philosophy Rest on a Mistake?* G. E. More *Principia Ethica.* Ralph Barton Perry *General Theory of Value. Realms of Value.* Nicolai Hartmann *Ethics.* Paul Tillich *Systematic Theology. The Courage to Be. Theology of Culture.* C. D. Broad *Some of the Main Problems of Ethics.* Morris Ginsberg *On the Diversity of Morals.* Brand Blanshard *Reason and Goodness.* Jean-Paul Sartre *Being and Nothingness.* Alfred Jules Ayer *Language, Truth, and Logic.* Charles Leslie Stevenson. *Ethics and Language.* P. H. Nowell-Smith *Ethics.* Index.

VASKE—An Introduction to Metaphysics
By MARTIN O. VASKE, S.J., Creighton University.
272 *pp.*, 6 *x* 9, *illus.* (1963).....$4.95*c*
This new text, designed for use at the sophomore level, incorporates some of the more recent developments in Thomistic metaphysics while retaining most of the traditional content. The material is structurally clear and organically unified. It attempts to answer such basic questions as: What does it mean to be real? Why is there something rather than nothing? How can many participate being? How can beings change? What are the causes of limited, changing being? The answers given to these questions attempt to lay bare a stratum of intelligibility in being not disclosed to the idealist, materialist, phenomenalist, essentialist world-view.
CONTENTS—*Preface.* Existents. Changing Existents. Participating, Multiple, Limited Existents. Efficient Causes. Final and Exemplary Causes. The Primary Cause. The Transcendental Properties. Categories of Limited Being. Analogy of Being—A Summary. *Footnotes to the Text. Index.*

ROYCE—Man and His Nature
A Philosophical Psychology
By JAMES E. ROYCE, S.J., Seattle University.
398 *pp.*, 5⅜ *x* 8⅜, 16 *illus.* (1961)..$6.50*c*
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DUDLEY AND FARICY—The Humanities
Applied Aesthetics
By LOUISE DUDLEY, Stephens College and AUSTIN FARICY. Third Edition.
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WALKER—Modern Technology and Civilization
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480 *pp.*, 6 *x* 9, *illus.* (1962)
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Philosophy

SULLIVAN—Fundamentals of Logic
By DANIEL J. SULLIVAN, Fordham Univ.
280 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$4.95*c*
This text is designed for a one-semester course for students who have had no previous training in either logic or philosophy. The minimum of philosophical notions which will enable the student to attain a real working knowledge of his subject are included. This book is oriented toward further work in philosophy by the careful explanation of all terms, stress on the practical function of logic, an unusually large number of exercises, and a lengthy section on fallacies.
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Art History and Appreciation

BRION—Romantic Art

By MARCEL BRION, Art Critic and Art Historian.

244 *pp.*, 11 *x* 13, 64 *color plates*, 166 *full-page black and white illus.* (1960)..$25.00*td*

Romantic Art is the second in a series of oversize, richly illustrated color art books which began with the art of *The Rococo Age* covering the 18th century and which now continues with the romantic art of the early 19th century. This volume is the outgrowth of an international exhibition of romantic art at London's Tate Gallery but includes as well American romantic material. As the previous rococo volume, *Romantic Art* offers for the first time a complete survey and discussion of romantic art in its origins, development, and ultimate influence. A luxurious book, it is accompanied by an authoritative text which makes it an invaluable reference work as well.

CASSOU, PEVSNER, AND LANGUI—Gateway to the Twentieth Century

By JEAN CASSOU, NIKOLAUS PEVSNER, and EMIL LANGUI.

362 *pp.*, 10¼ *x* 13¼, 162 *illus.* (1962) $25.00*td*

From the 1960 Council of Europe exhibition in Paris, this is the first volume entirely devoted to the dramatic gestation of modern art during the period 1884–1914. Although France played a leading role in this epoch ending with World War I, a period which saw the birth of post-Impressionism, neo-Impressionism, Symbolism, Art Nouveau, Fauvism, Expressionism, Futurism, and Cubism, these major artistic developments are discussed in terms of their international significance. Jean Cassou, Chairman of the Committee for the original exhibition and Director of the Musée d'Art Moderne, Paris, treats general background factors while Nikolaus Pevsner and Emil Langui, each associated with the exhibition, have specific tasks with the areas of painting, sculpture, architecture, and applied arts.

GRAETZ—The Symbolic Language of Vincent Van Gogh

By H. R. GRAETZ.

In Press

This remarkable book identifies and analyzes a significant thread of recurrent symbols in Van Gogh's paintings and relates them to relevant excerpts from the artist's letters—bringing Van Gogh into the focus of modern psychiatric knowledge. Mr. Graetz's profusely illustrated analysis reveals the imaginative mind of Van Gogh, uniquely aware of the details of the solitary battle it was waging. The numerous illustrations, many of them in color, clearly illustrate the author's analysis.

JONES—Architecture Today and Tomorrow

By CRANSTON JONES, Associate Art Editor, *Time Magazine.*

256 *pp.*, 9 *x* 12, 340 *black and white illus.*, 53 *color plates* (1961).....$17.50*t*

This book, which results from a series of personal interviews with many of the leading architects of the world, is addressed to the average reader but will also interest the informed person who has never had an opportunity of seeing all of the works projected here. Its language is straightforward and interesting and in many places quite exciting. The many black-and-white illustrations have been gathered from the studios of photographers from different parts of the world. Most unusual for a book of this kind are the more than 50 color plates made specifically for a series of *Time* articles prepared by the author.

LIPMAN—What Is American in American Art

Edited by JEAN LIPMAN.

180 *pp.*, 9 *x* 12, 150 *illus.* (1963)....$12.50*t*

Lloyd Goodrich, Edward Steichen, John I. H. Baur, Ben Shahn, and Brian O'Doherty are among those whose widely varied findings and opinions on the particularly American qualities

in the arts of the United States are brought together in this unusual volume. A total of twenty-four articles ranges from a discussion of recent rubbings of archaic New England gravestones to the paintings of Andrew Wyeth. 50 color plates, (including 4 special picture sections on heavy stock).

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244 *pp.*, 9¾ *x* 12, 151 *plates* (1960). $15.00*td*

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MYERS—Art and Civilization

By BERNARD S. MYERS, formerly The City College, New York.

705 *pp.*, 6⅜ *x* 9¼, 567 *illus.* (1957). $11.95*t*†

A stimulating history of world painting, sculpture, and architecture from Primitive to Modern times, including chapters on the Near and Far East. This book shows not only the normal chronological development of the history of art and its various stylisitic phases, but also the social and cultural reasons for these changes. There is a thorough treatment of the recently-developed "Mannerist field." There are nearly 500 specially chosen half-tone illustrations.

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MYERS—The German Expressionists

By BERNARD S. MYERS, formerly The City College, New York.

In Press

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A Pictorial Survey

By WILLIAM H. PIERSON, JR., Williams College, and MARTHA DAVIDSON, Claremont, California.

452 *pp.*, 8½ *x* 11, 4,000 *black and white illus.* (1960). $10.95*t*†

There is no book on the market today as broad in its pictorial coverage as *Arts of the United States*. This overall view is the result of a long-range color slide project sponsored by the Carnegie Corporation of America, and carried out by a team of experts under the direction of the University of Georgia's Art Department. These people, as well as the authors of the definitive and descriptive essays on each of the fields in American art, are the outstanding scholars and museum people in the American art world. As the title implies, *Arts of the United States* affords a complete coverage of all the art forms developed in this country since pre-Colonial days. In addition to the 4,000 black-and-white photographs that afford the basic pictorial element in this book and the specialized essays on each subject, the work contains an elaborate catalogue in which each of the objects shown is titled, categorized, and located. A special team of photographers visited all the major museums and important monuments in this country to make the slides for the Carnegie project. Thus, our illustrations in many cases afford a new view of a hitherto little-known monument or object or else a fresh view of a well-known work.

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ROGER—MARX—Graphic Art of the 19th Century

By CLAUDE ROGER-MARX

254 *pp.*, 6 *x* 8⅜, 168 *illus.* (1963). $6.95*td*

It was in the 19th century that many great artists broke with tradition and enthusiastically developed printmaking as a spontaneous art form. Here is the story of the graphic arts renaissance which resulted, told with candor and insight by Claude Roger-Marx, champion and personal friend of many of the artists whose work he describes. He has provided a lucid account of the artists' struggle to achieve recognition for the new art form and of the support they received from outstanding writers and publishers of their day. At the same time, he defines the emerging print techniques in terms of their chronological development.

ROTH—Jewish Art

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Edited by Dr. Cecil Roth.

460 *pp.*, 7½ *x* 10½, 12 *color plates and* 450 *black and white illus.* (1961). $14.95*td*

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† *Textbook edition available at educational list price.*

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SCHÖNBERGER AND SOEHNER—The Rococo Age

Art and Civilization of the 18th Century
By ARNO SCHÖNBERGER, Bavarian National Museum, Munich, and HALLDOR SOEHNER, Bavarian State Picture Collection, Munich.
394 *pp.*, 10½ *x* 13½, 315 *black and white illus.*, 49 *color plates*, 60 *line drawings* (1960) $25.00*td*

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CONTENTS—Preface. The Enlightened Mind. 18th Century Culture Mirrored by Art. The Human Face. The Courtly Arts. Fêtes and Entertainments. Music and the Theatre. The Olympians. Pastorale. Chinoiserie and the Exotic East. At Home. Animal Portraiture and Still Life. Town and Country. Ecclesia Triumphans. Notes on the Plates. Index.

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D'ANCONA—Paolo Uccello
By PAOLO D'ANCONA.
90 *pp.*, 11 *x* 4¾, 82 *illus.* (1961)..$20.00*td*
Known traditionally for his study of perspective, Paolo Uccello belonged to a first generation of fifteenth-century Italian painters that formulated the Renaissance style in Florence. The varied and poetic qualities of his paintings, frescoes, and other work emerge in this handsome volume.

STITES—The Arts and Man
By RAYMOND S. STITES, National Gallery of Art.
872 *pp.*, 7¾ *x* 10¼, 1008 *illus.* (1940) $8.95*c*
In this book of unusual distinction and beauty, the author unfolds in vivid style the fascinating story of the development of man's arts, from nature dances of the cave painters to the modern motion picture. The book throws the subject into revealing perspective by focusing the evidence presented not only by the spatial arts, but also by the non-spatial arts. The author shows how the varied art expressions in different cultures have been determinated by complex geographical, racial, political, and economic forces.
CONTENTS—Principles and Elements of Art Structure Discovered in Nature. Arts in the Hunting Age. The Arts of Agricultural Man. The Religious Art of Egypt. The Art of Power in Western Asia. The Formative Influence in Greek Art. Greek Art—Social, Political, and Philosophical Backgrounds. The Triumph of the Attic Style. I. The Triumph of the Attic Style. II. Art under the Romans. Early Christian and Byzantine Art. The Art of Crusading Peoples. The Gothic Style in North and South. The Arts of Asia—East and West. The Renaissance. The Baroque Styles and the Rise of the Classical Academies. Romanticism in the Nineteenth Century. The Art of the Twentieth Century. The Art of the Americas.

RILEY—Your Art Heritage, 2nd Ed.
By OLIVE RILEY, New York City Public Schools.
386 *pp.*, 6 *x* 9¼, 300 *illus.* (1963)...$5.96*s*
Traces the development of architecture, painting, sculpture, and the minor arts from early, primitive art through comtemporary times. The major emphasis is upon (1) the aesthetic relationships found among the works of artists widely separated by space and time, (2) the understanding of art as an important element in the cultural development of mankind through the ages.
CONTENTS—Primitive and Early Art. Primitive and Early Sculpture. Early Minor Arts. Birth of European Architecture. Development of Sculpture. Early Painters. Enrichment of the Minor Arts. Development of Painting. Development of Architecture. Modern Painting. Development of Sculpture. Painting in the Americas. Modern Architecture. The Creative Spirit.

GRAZIOSI—Palaeolithic Art
By PAOLO GRAZIOSI, University of Florence, and the Italian National Museum of Anthropology and Ethnology.
590 *pp.*, 9⅝ *x* 13¼, 1158 *illus.* (in 306 *plates*—795 *monochrome half-tones*, 363 *line illus. and* 58 *color plates, and* 38 *figures and* 2 *folding maps*) (1960).....$35.00*tf*
This magnificent volume embraces the complete range of artistic expression in the Upper Palaeolithic, or "Old Stone Age," in France, Spain, Eastern Europe and the Mediterranean. It is unique for the high standard of illustration and documentation both of the art found in caves and rock shelters, and of the less well-known "mobiliary" art on objects excavated from deposits inside and outside caves. This is the first book to cover the origin and evolution of *all* forms of art attributable to the end of the Ice Age. Subject matter and illustrative material is divided into two parts: "mobiliary" art in the form of sculpture, carving and engraving on bone, antler, ivory and stone; and cave art, in the form of painting, engraving, relief and statuary. Each part is described and illustrated separately. The two main geographical areas are subdivided regionally and in each case the stylistic sequence is followed through from the archaic to the evolved form. In both the mobiliary and the cave-art sections, major sites and finds are described and documented, with references to the illustrations, making this the most nearly definitive work on the subject ever published.

MYERS—Modern Art in the Making
By BERNARD S. MYERS, formerly, The City College, New York. Second Edition.
474 *pp.*, 7¼ *x* 9⅞, 78 *illus.* (1959).$11.95*tt*
Presents a clear, straightforward account of painting as it has been shaped by the historical forces of the past 150 years. From the French Revolution and its Neo-classicism to the Abstract Expressionist movement after World War II, every stylistic transition and the changes from one period to the next are described in a coherent narrative, free from jargon, bringing the story of modern art up to the present time. Specific illustrations help to clarify all the underlying principles of the basic sources behind contemporary art. Emphasis is placed on the cultural and social forces of the nineteenth and twentieth centuries as they have affected the artist and his work.
CONTENTS—Preface. List of Illustrations. The French Revolution: A Break with the Past. Goya, Forerunner of Modern Art. Early Romanticism. Géricault and Delacroix. Ingres and the Academicians. The English Contribution. The Romantic Landscape in France. The Realists: Millet, Courbet, Daumier. From Manet to Impressionism. Renoir. From Degas to Toulouse-Lautrec. Cézanne and Post-Impressionism.

The Neo-Impressionists: Seurat and Signac. Vincent Van Gogh. Paul Gauguin and Symbolism. Henri Rousseau. Toward the Abstract: Matisse and the Fauves. From Picasso to Abstract Art. Expressionism: Revolt in Germany. Escape into the Mind: Dada, Surrealism, and Neo-Romanticism. America and the World Today. The Modern Artist and Society. What to Read. Index.

SANDBERG AND JAFFÉ—Pioneers of Modern Art

In the Museum of the City of Amsterdam
By W. SANDBERG, Director, Stedelijk Museum, Amsterdam, and H. L. C. JAFFÉ, Curator.

272 *pp.*, 10½ *x* 12, 444 *illus.* (1961) $18.50*t*

The Stedelijk or "Municipal Museum" of Amsterdam, although little-known to the American public, is one of the most beautiful and comprehensive museums of modern art in the world. Its collection of modern art, ranging from post-Impressionism to contemporary Abstract Expressionism, represents the major artistic developments in the modern Western world. The authors have chosen to project the story of modern art and to display the museum's collection by working backward from the present to the end of the nineteenth century, with the pioneers of the modern movement ending their account. In addition to painting and sculpture, this survey embraces architecture, graphic arts, industrial design, tapestries, furniture, and photography. Dr. Sandberg, an expert in book design as well as the Director of the Stedelijk, has organized the illustrations to create the visual excitement of an actual trip to the museum. Currently planning the modern section of the international art exhibition at the 1962 Seattle World's Fair, he has been called upon many times to advise various museums in the United States.

Decorative Arts

LIVERANI—Five Centuries of Italian Majolica

By GIUSEPPE LIVERANI, International Museum of Ceramics, Faenza, Italy.

258 *pp.*, 11$^{13}/_{16}$ *x* 9⅜, *illus.* (1960)..$28.50*t*

A foremost scholar of majolica has written this absorbing and lavishly illustrated study of a fascinating field of Italian ceramic art. The book traces majolica from its earliest beginnings in the thirteenth-century Gothic period into its last phases in the seventeenth century. Majolica from the hand of every master is authoritatively analyzed and described. The exceptional quality of the color plates and the freshness of the subject matter combine to make this one of the most appealing art books published in recent years.

MARAICHER—Italian Blown Glass

From Ancient Rome to Venice
By GIOVANNI MARIACHER.

244 *pp.*, 12 *x* 14, *illus.* (1961).....$25.00*td*

This volume presents a two thousand year panorama of the most beautiful examples of blown glass. Starting with the production of Roman glass, which lapsed in Italy at the time of the barbarian invasions, it discusses a variety of blown glass forms which developd in the period from antiquity to the Middle Ages, climaxing in the Murano school (near Venice) in the thirteenth century. From the fourteenth to the sixteenth century the development of glass continued in that same area. During the latter part of the Renaissance, Venetian glass makers emigrated to other parts of Italy and Europe, stimulating a general increase in blown glass production in the sixteenth and seventeenth centuries. This account of an exquisite art ends with the last creative phases of blown glass in the eighteenth century.

SIVIERO—Jewelry and Amber of Italy

A Collection in the National Museum of Naples
By RODOLFO SIVIERO.

427 *pp.*, 9¾ *x* 13¼, 282 *illus.* (1959)..$25.00*r*

Vividly portrayed in 274 black-and-white and 8 color illustrations are outstanding examples of gold necklaces, buckles, clasps, pendants, rings, vases, hairpins, small statues, bracelets, ornamental buttons, diadems, earrings, charms, pins, ornaments, oil lamps, coins, and fragments taken from various excavations, as well as amber necklaces, statuettes, and fragments. 135 pages of annotated text describe the size and source of each item, and explain the particular characteristics that make each piece exceptional.

Design

GRAVES—The Art of Color and Design

By MAITLAND E. GRAVES, Pratt Institute. Second Edition.

439 *pp.*, 7¼ *x* 9⅝, 335 *illus.* (1951)..$8.50*c*

Offers an orderly, clear, and simple analysis of the elements and principles upon which all visual art is built. "The Graves Design Judgment Test" has been further developed in this revision by the inclusion of three-dimensional, as well as two-dimensional, items. A new "Taste Test" has also been introduced. This challenges the student's aesthetic judgment with paired illustrations of good and bad taste in many different fields of design. Complete and fully-illustrated instructions show how to make a color cabinet and how to make color charts with which more than a thousand different color schemes may be easily and rapidly planned.

CONTENTS—Preface. The Plan of Design Study. PART I. The Elements of Design. PART II. The Principles of Design. The Forms of Elemental Relationships. Harmony. Gradation. Contrast. Unity. PART III. Analysis of the Design Elements. Line. Direction. Texture. Proportion. Value. Color. Conclusion. Glossary. Index.

RASMUSEN—Art Structure

A Textbook of Creative Design
By H. M. RASMUSEN.

109 *pp.*, 8½ *x* 11, 150 *illus.* (1950)..$7.95*c*

Presents a creative approach to art activity and appreciation, outlining principles basic to all good works of art, ancient and modern, from realism to abstraction. A general summary of the important principles is made in the complete analysis of Pieter Brugel's painting, "The Wedding Dance."

CONTENTS—The Creative Attitude. The Artist's Problem. The Artist's Means. Unity, the Universal Law. Unity of the Means. The Third Dimension. Volumes, Planes, and the Total Means. Theme and Expression. Technique. Analysis of *The Wedding Dance*.

SCOTT—Design Fundamentals

By ROBERT GILLIM SCOTT.

199 *pp.*, 8½ *x* 11, *illus.* (1951)....$8.95*c*

A treatment of basic design, presenting the basis for the patterns of thought and feeling that underlie all designing. It thoroughly treats two and three dimensional organization, color, light, and movement. The reader is given the physiological and psychological factors that enter into design judgments. These judgments are explored in the process of organizing form,

balance, movement, proportion, rhythm, tone, and color, and are illustrated with diagrams and a wide selection of design objects. Structural relations are considered with visual relations, with emphasis on purpose and function as well as on formal order.

CONTENTS—Introduction: What Design Is. Contrast: Brick and Mortar of Form. Figure Organization. Movement and Balance. Proportion and Rhythm. Color: Pigment and Tone Control. The Dynamics of Color. Color Relationships. Depth and Plastic Illusion. Three-dimensional Organization. Three-dimensional Organization (continued). Light and Movement. Design in Action: Designing This Book.

Color

BUSTANOBY—Principles of Color and Color Mixing

By J. H. BUSTANOBY, Color Consultant.

131 *pp.*, 7¼ *x* 9⅞, *illus.* (1947).....$7.50*t*

Provides a unique yet simple system for identifying, with speed and accuracy, a wide variety of today's standard and popular hues, tints, tones, and shades—including 242 formulas for mixing them.

CONTENTS—Part I: Origin of Color. Part II: Pigments and Mediums. Part III: Color Mixing. Part IV: How to Obtain Standard and Popular Colors. Part V: Color Individuality. Part VI: Color Sensation. Part VII: Color Psychology. Part VIII: Color Systems. Part IX: A Dictionary of Color Terms. Index.

GRAVES—Color Fundamentals

With 100 Color Schemes

By MAITLAND GRAVES, Pratt Institute.

203 *pp.*, 7¼ *x* 9⅜, 98 *illus.* (1952)..$10.00*r*

The purpose of this book is to help the user of color in art, industry, business, and science to formulate a comprehensive, integrated color concept that will enable him to organize color more intelligently and effectively. It provides this concept by explaining and illustrating the physical, psychophysical, physiological, psychological, and aesthetic aspects of color, and their interrelationships.

CONTENTS—The Purpose and Plan of Color Study. Part I. THE COLOR STIMULUS OR LIGHT. Light, or Visible Radiant Energy. Part II. LIGHT MODIFIERS OR COLORANTS. Transmitters of Light. Reflectors of Light. Physical Specification of Colorants by Spectrophotometry. Colorant Mixtures. Effects of Illuminants on COLORANTS. Transmitters of Light. Reflectors of Light. Photoengraving and Printing. Part III. COLOR SENSATION. Physiology of Color Sensation. Part IV. COLOR SENSATION MODIFIERS. Color Blindness. Juxtaposition of Colorants. Afterimages. Part V. COLOR ORGANIZATION. Psychological Specification of Colorants by the Munsell System. The Color Cabinet. Color Scales. Color Schemes. COLOR AND 100 COLOR SCHEMES. Index.

KOBLO—World of Color

An Introduction to the Theory and Use of Color in Art

By MARTIN KOBLO.

238 *pp.*, 6½ *x* 9¾, 44 *color plates* and 101 *black-and-white illus.* (1962).....$6.95*t*

A general guide to the meaning and technique of color as it is used in all the two dimensional arts. It takes up both the symbolic and practical uses of color, and discusses the technique and application of color in oil painting, water color, tempera, pastels, lithograph, glass painting, frescoes, mosaics and decorative painting. It traces the history of color from ancient times to the present day showing the different ways in which color has been treated from one century to another. WORLD OF COLOR is one of the most richly illustrated handbooks on the market. It clarifies for the layman the problem of what is a fresco, a tempera painting, a glass painting, and other media. For the student it is particularly useful in showing what tools should be used, how to arrange and mix colors and how to proceed in the composing of works of art in all the pictorial media as outlined in this book. Every phase of the treatment of color is illustrated in both color plates and black-and-white illustrations so that both the layman and the student receive a very concrete idea of the practical results achieved in mixing, arranging or composing color in every conceivable artistic situation.

Practical Art

CARVER—Painting in Oil by the 5-Color Method

By MICHAEL CARVER, Michael Carver School of Painting.

224 *pp.*, 8¼ *x* 10⅞, 70 *illus.* (1962)..$8.95*t*

As the name implies, *Painting in Oil by the 5-Color Method* offers the beginner a new simplified approach through which he can get into the actual business of painting with the most limited range of colors. It takes you step-by-step through a course in painting under the guidance of a teacher of many years experience who knows intimately the problems of the beginning artist. Writing in a warm, friendly, and easy to understand manner, the author directs the reader from the first charcoal sketches through to a finished painting. His first-hand knowledge of the amateur's difficulty makes it possible for him to anticipate every question that might cause anxiety and concern to the untrained painter. Logically arranged and rich in illustrative matter supplementing the text, the book strikes a balance between the organization of art materials, the mechanics of painting, and a variety of useful reference material. It includes such topics as the meaning of art, how to create a color library, and a comprehensive dictionary of art terms and phrases.

Music

McGRAW-HILL SERIES IN MUSIC

(Series in Mus.)

Douglas Moore, Consulting Editor
Columbia University

Atkisson—Basic Counterpoint
Chase—America's Music
Ratner—Harmony
Ratner—Music: The Listener's Art
Wagner—Band Scoring
Wagner—Orchestration

RATNER—Music
The Listener's Art
By LEONARD G. RATNER, Stanford University. *McGraw-Hill Series in Music.*
300 *pp.*, 6 *x* 9, *illus.* (1957).....$9.25*t*†
This is a book for the listener who wants to increase his understanding of music. It aims to provide him with tools, and with means by which he can better analyze, evaluate, and appreciate the music he hears. The main emphasis throughout the book is upon the relation between musical techniques and expressive values in music.
CONTENTS—The Musical Experience. Musical Elements and Their Relationships. Medieval Music. Renaissance Music. Baroque Music. Classic Music. Romantic Music. Modern Music. Retrospect. Index.

RATNER—Harmony
Structure and Style
By LEONARD G. RATNER, Stanford University. *Series in Mus.*
345 *pp.*, 6⅜ *x* 9¼, 225 *illus.* (1962)..$7.75*c*
Presents a dynamic new approach to the teaching of harmony. The notions of the cadential formula, the sense of key, statement and counter-statement, the two-voice texture, phrase and period structure, and the melodic role of ornamentation are the primary features of this new approach. The author believes harmony can be taught through references to the structure of music, with exercises to be cast in an instrumental style. Using stylistic studies as a basis, the author discusses harmony as an effective working tool for music students, and describes how harmony interacts with rhythm, melody, texture, and structure in the total music effect. Elements basic to 18th and 19th century music are the framework for a course which allows for organic expansion leading to composition and analysis.
CONTENTS—Preface. PART I. HARMONIC SONORITIES: Intervals. The Sense of Key. Triads: Voice Parts. PART II. HARMONIC ACTION: The Cadential Formula. The Minor Mode. Rhythmic Elaboration: The Phrase. Melodic Elaboration. Three-part Writing: Fuller Texture. Rhythmic Patterns of Chord Change. The Period. The Dominant Seventh: Six-four Positions. The Major Sixth in Dominant Harmony. Extending the Period. The Full Roster of Triads. Varieties of Texture. Accented Non-chord Tones. Suspensions. Non-dominant Seventh Chords. Special Attributes of the Minor Mode. Expanded Cadential Action. Modulation. Two-reprise Form. Interchange of Mode. PART III. HARMONIC COLOR: Chromatic Digressions in Diatonic Harmony. Coloristic Piano Texture. Concentrations of Chromatic Harmony. Summary.

CHASE—America's Music
From the Pilgrims to the Present
By GILBERT CHASE. *Series in Mus.*
733 *pp.*, 6 *x* 9, 160 *illus.* (1955)...$10.00*t*†
In *America's Music* a noted musician and scholar has taken the whole exciting and diversified panorama of our great musical heritage and set it down in a serious study of our music that is both a noteworthy and an important contribution to our musical literature. From the pilgrim to the present, Mr. Chase describes and evaluates the vital forces and influences that have made our music. *America's Music* covers the origin and growth of all the music that the people of the United States have made or remade over the past 330 years—from the psalms of the pilgrims, Indian tribal music, Negro spirituals, folk songs and ballads to the rise of ragtime and the blues, jazz and Broadway musicals, experiments in the symphonic and operatic mediums.

COPLAND—What to Listen for in Music
By AARON COPLAND. Revised Edition.
320 *pp.*, 5⅜ *x* 8 (1957).....$4.95*t*
One of the best known and highly regarded of contemporary American composers discusses how to listen to music from the composer's point of view. Presents a fresh conception of just what we hear, and what we should hear, in listening to any piece of music.
CONTENTS—Preliminaries. How We Listen. The Creative Process in Music. The Four Elements of Music—Rhythm. The Four Elements of Music—Melody. The Four Elements of Music—Harmony. The Four Elements of Music—Tone Color. Musical Texture. Musical Structure. Fundamental Forms—Sectional Form. Fundamental Forms—Variation Form. Fundamental Forms—Fugal Form. Fundamental Forms—Sonata Form. Fundamental Forms—Free Forms. Opera and Music Drama. Contemporary Music. Film Music. From Composer to Interpreter and Listener. Appendix I. Appendix II. Appendix III. List of Recorded Works. Bibliography. Index.

ATKISSON—Basic Counterpoint
By HAROLD F. ATKISSON. *Series in Mus.*
174 *pp.*, 6 *x* 9, 159 *illus.* (1956).....$5.95*c*
A concise, simple, practical manual that surveys contrapuntal practice of the 16th, 17th, and 18th Centuries. The material ranges from two part composition in the style of the 16th Century ecclesiastical composers to the composition of a four voice fugue in the style of the 18th Century, including the techniques of invertible counterpoint and canon. The approach is through the actual music of the period. The process is that of explanation followed by analysis of the music, and that followed by composition using the techniques of the period involved.
CONTENTS—Introduction. SIXTEENTH CENTURY ECCLESIASTICAL STYLE. Preliminary Considerations. Two Part Writing. Three Part Writing. Writing in Four and More Parts. Some Aspects of Composition in the Seventeenth Century. EIGHTEENTH CENTURY STYLE. Two Part Writing: The Two Part Invention. Three Part Writing: The Sinfonia. Four Part Writing: The Fugue. Conclusion.

HILLER AND ISAACSON—Experimental Music
Composition with an Electronic Computer
By LEJAREN A. HILLER, JR., University of Illinois, and LEONARD M. ISAACSON, Standard Oil of California.
197 *pp.*, 6 *x* 9, 59 *illus.* (1959).....$6.95*r*
A detailed description, for the musician, the general reader and the scientist, of the techniques used to produce music by means of electronic automatic high-speed computers. Background material is included on topics such as relevant aesthetic problems, information theory, past and current experimental music, a description of how computers work for the reader not technically trained, and an evaluation of what the authors think lies ahead.

WAGNER—Band Scoring
A Comprehensive Manual
By JOSEPH WAGNER, Conservatory of the California Institute of the Arts, Los Angeles. *Series in Mus.*
443 *pp.*, 6 *x* 9, *illus.* (1960).....$7.95*c*
Workbook.....$2.95*c*

† *Textbook edition available at educational list price.*

This thorough and comprehensive manual of band scoring is admirably suited for experienced musicians as well as those not having any previous knowledge of the subject matter. The text begins with a brief survey of the band, its origins, purposes, instrumentation, and library. It later progresses to the discussion of the instruments of the band and their usages. The playing characteristics of all the wind and percussion instruments are examined in their various idiomatic playing styles as well as their respective range divisions. Scoring the military march and the transcription of orchestral music are both given separate attention and examination. A Reference Chart of Keyboard Idioms and Patterns presents a systematic and unprecendented method for devising proper voice textures for the wind instruments.

The accompanying manual provides well-diversified source material. The music herein spans three centuries of composition styles, and each excerpt is left in its original form. The material is classified in five parts to correspond to the divisions of the text.

CONTENTS—Preface. A Survey of the Band's History. The Band and Its Music. The Band's Instrumentation. Instruments of the Band. The Harmonic Series. The Wood-wind Instruments. The Non-reeds. The Single Reeds. The Double Reeds. The Wood-wind Section as a Complete Unit. Scoring the Wood-winds as an Independent Section. The Brass Instruments. High Range Brass Instruments. Middle Range Brass Instruments. Low Range Brass Instruments. The Brass Section as a Complete Unit. Scoring the Brass as an Independent Section. The Percussion Section. The Drum Group. Percussion Instruments Made of Metal. Percussion Instruments Made of Wood. The Percussion Instruments in Combination. Supplementary Instruments. Special Effects. Scoring for the Full Band. The Reference Chart of Keyboard Idioms and Patterns. Scoring Military Marches. Band Transcription of Orchestral Music. Conclusion. Bibliography. Index.

WAGNER—Orchestration: A Practical Handbook; and Workbook

By JOSEPH WAGNER, Conservatory of the California Institute of the Arts, Los Angeles. *Series in Mus.*

350 *pp.*, 6 *x* 9 (1959).....$10.50*t*†
Workbook $2.50*c*

Here is the first truly practical guide to scoring for the orchestra for students, arrangers, and composers alike. The unique feature of Wagner's method lies in a reference chart which permits moving directly and easily from the piano to the orchestra. The book presupposes no previous knowledge or experience with the subject. Its scope ranges from a historical background and survey of every instrument in the orchestra to a detailed and outlined plan for orchestral scoring.

The workbook contains over 50 sizeable musical examples (including 7 complete works) representing composers from Bach to Bartok and provides well-diversified source material for actual scoring.

CONTENTS—Music as a Guide. Composition and Orchestration Styles. Textures and Techniques. Instrumental Considerations. Instruments of the Orchestra. The String Section. Bowing for all Strings. Special Effects. Scoring for the Strings. Reference Chart of Keyboard Idioms and Patterns. The Wood-wind Section. The Non-reeds. The Single Reeds. The Double Reeds. Scoring the Wood-winds as an Independent Section. The Reference Chart of Keyboard Idioms and Patterns. The Brass Section. The Horns. The Horns as an Independent Choir. The Trumpet. The Cornet. The Trombones. The Trombones as a Unit. The Tuba. Scoring the Brass as an Independent Section. The Brass Section in Full Orchestral Scoring. The Percussion Section. Vibration Characteristics. The Drum Group. Percussion Instruments Made of Metal. Percussion Instruments Made of Wood. The Percussion Ensemble. Supplementary Instruments. Scoring for Full Orchestra. The Reference Chart of Keyboard Idioms. Conclusion Bibliography. Publication Credits. Index

Language Dictionaries and Languages

Arabic and English

MANSOOR—English-Arabic Dictionary of Political, Diplomatic and Conference Terms

By M. MANSOOR, University of Wisconsin.

384 *pp.*, 6 *x* 9 (1961).....$15.00*i*

The increasing significance of the Arab States in world affairs makes publication of this dictionary timely: it will help to meet the growing need for closer communication between the Arabic and English-speaking worlds. Students of international affairs, government personnel and businessmen both here and abroad will find this dictionary extremely helpful. Appendices list international organizations and the countries of the world and their capitals in both English and Arabic.

Containing more than 9,500 entries, this is the first comprehensive English-Arabic Dictionary of international terms to be published. It is designed to supplement, not replace, existing standard English-Arabic dictionaries, although development of the Arabic technical language has been so rapid in the last decade that most existing dictionaries are to a great degree obsolete. This dictionary will fill a serious gap in the expanding Arabic literature of international relations and will meet an important need for closer communication between the Arabic and English worlds.

Chinese and English

MODERN CHINESE TECHNICAL AND GENERAL DICTIONARY

3,864 *pp.*, 8⅜ *x* 11 (1963).....$45.00*i*
(3 Vols.—not sold separately)

This dictionary has been compiled to help readers and translators of Chinese texts, especially of scientific, political and economic material published in Mainland China. More than eighty per cent of the 212,000 entries are common scientific and technical terms well used in mathematics, chemistry, medicine, atomic physics, geology, mineralogy. Military affairs are well represented and include many newly coined terms which cannot be found in any Chinese-English or English-Chinese dictionary. It is also an indispensable tool for translating current Chinese newspapers, journals, or books.

Contained within this dictionary is an introduction, the Wade-Giles—Pinyin Conversion

† *Textbook edition available at educational list price.*

Table, Radical-Stroke Index, Standard Telegraphic Code in Numerical Sequence, and Pinyin Romanization in Alphabetical Sequence.

CONTENTS—VOLUME I: Tables. Introduction. Wades-Giles—Pinyin Conversion Table. Table of Equivalent Initials, in English Alphabetical Order. Table of Equivalent Finals, in English Alphabetical Order. Abbreviated and Full Forms of Characters. Cross Reference List, Telegraphic Code Groups for Pre- and Post-Reform Characters. Radical-Stroke Index to Characters. Pinyin Phonetic Index to Characters, Arranged in Alphabetical Order.
VOLUME II: Standard Telegraphic Code in Numerical Sequence.
VOLUME III: Pinyin Romanization in Alphabetical Sequence.

French and English

DeVRIES—French-English Science Dictionary
For Students in Agricultural, Biological, and Physical Sciences
By LOUIS DEVRIES, Iowa State College. With the Collaboration of Members of the Graduate Faculty. Third Edition.
646 *pp.*, 5 *x* 7½ (1962).....$10.50*r*

This dictionary, long recognized as an authoritative work for students and scientists contains 43,000 entries pertaining to bacteriology, botany, zoology, entomology, genetics, horticulture, agronomy, chemistry, geology, geophysics, astronomy, oceanography, astrophysics, physics, and mathematics.

The new third edition includes the supplement of terms in aeronautics, electronics, radar, radio, television from the second edition and more than 5,000 new terms and newly recognized translations of terms that have become important in scientific literature since the Second Edition was published. These new entries have been incorporated in the Supplement which follows the main body of the Dictionary. The new terms will, it is hoped, make the book much more useful to students and others who read or translate material published in French since 1956, of which there has been an increasing volume in all fields of science.

In addition to the revised Supplement, there has been added a new Guide for Translators at the front of the Dictionary. The Guide, which covers a number of grammatical principles and matters of syntax frequent in scientific French prose, should be helpful to all users of the Dictionary, and particularly to students who are preparing for certification examinations in reading scientific French. The Guide cannot of course be an adequate substitute for a textbook, but it provides a convenient reference and set of reminders about a number of "tricks of the trade" to aid in recognizing certain constructions and idioms that can give trouble to the inexperienced reader of French; it has been prepared with special reference to scientific facts, methods and ideas.

KIRK AND ST. JOHN—Le Français en Images
By GEORGE KIRK, University of Toronto Schools, and HELEN ST. JOHN, Ontario College of Education, University of Toronto.
188 *pp.*, 7½ *x* 10¼, *illus.* (1962)....$4.25

A refreshing new text for the teaching of French at the elementary school level, prepared for pupils who have never studied French or have had only oral practice with the language. Primary emphasis is placed on the correct pronunciation of French sounds in a natural setting that will appeal to young pupils. Sounds are dealt with in sequence, words containing each new sound are used in sentences, and new words or phrases are accompanied by pictures, which illustrate their meaning. New vocabulary is fixed by means of picture identification, reading, games, and songs.

While no attempt is made to teach formal grammar, this book leads to familiarity with such forms as the article, the adjective, simple prepositions, the pronoun, the present tense of regular verbs of the first conjugation and some commonly used irregular verbs, and simple interrogative and negative forms. In addition, the book introduces colours, numerals, days of the week, months and seasons of the year, the weather, and expressions of time and salutation.

LAROUSSE—The LaRousse Modern French-English, English-French Dictionary
1600 *pp.*, 5½ *x* 7⅞ (1960).....$8.95*t*

Working together under the sponsorship of LaRousse, the greatest name in French dictionaries, two Frenchmen, three Americans, and three Englishmen have achieved a completely unified work that will tremendously simplify study and research, while providing readers with a maximum of up-to-date information. Many novel innovations have been included in this superb book. Illustrations have been used to show graphically the French and English equivalents for objects in everyday use. All words that relate to a given topic such as law, electricity, or language are listed together, offering a readily available means to broaden vocabulary within any specialized area. At the head of extended entries, summaries enumerate the principal senses of the word, and all grammatical peculiarities and special usages are indicated for easy reference.

SELL—English-French Dictionary of the Automobile and Allied Industries
Compiled by LEWIS L. SELL with the collaboration of leading manufacturers.
768 *pp.*, 5½ *x* 7¼ (1932).....$15.00*i*

This book enables the reader to translate the phraseology of any ideas, information, instructions, or specifications of the automotive field with the exactitude required in technical matter, and in terms which the French engineer, businessman, or mechanic will comprehend.

German and English

BROCKHAUS ILLUSTRATED GERMAN-ENGLISH, ENGLISH-GERMAN DICTIONARY
1500 *pp.*, 5⅜ *x* 8⅜, 3000 *illus.* (1961) $9.95*tg*

Completely up-to-date and containing many important new entries—including a large number of scientific and technical terms—this thorough and reliable dictionary contains more than three thousand illustrations as well. American, British, and German readers will find idiomatic, literary, colloquial, and everyday slang expressions translated at the appropriate level. The most famous name in German-English dictionaries, the *Brockhaus Dictionary* gives the exact pronunciation of each word, and shows the definite articles. The illustrations show everyday objects with their names, helping Americans to understand the idiosyncrasies of German expressions. In clarity, format, and scope, it is indispensable to every English- or

German-speaking person who needs a full command of both languages for business, study, or pleasure.

DeVRIES—German-English Science Dictionary
By LOUIS DEVRIES, Iowa State University with Collaboration of Members of the Graduate Faculty. Third Edition.
592 *pp.*, 5 *x* 7 (1959).....$7.00*r*
The third edition of this text reflects the great output of German publications appearing since 1946. Recognizing these new terms and new translations of older terms, the author includes over 3,000 new entries. For the sake of expediency, these additions are placed at the back of the book following the Appendix. The Appendix itself features the following ready reference charts and tables: Conversion Table, Atomic Table, Thermodynamic Symbols, Electric Units of Measure, Abbreviations of Periodicals, List of Measurements, and Geographic Names.
CONTENTS—Preface to the Third Edition. Preface to the Second Edition. Preface to the First Edition. Suggestions for Translators. Reference Works. Text A-Z. Geographic Names. Abbreviations. Appendix. Addendum.

DeVRIES—German-English Technical and Engineering Dictionary Supplement
By LOUIS DEVRIES, Iowa State University.
386 *pp.*, 6 *x* 9 (1959).....$11.50*i*
Since 1950 and the first printing of the GERMAN-ENGLISH TECHNICAL AND ENGINEERING DICTIONARY, tremendous advances have been made in science and technology precipitating an enormous increase of new terminology. In order to collect these new terms in German, the author spent his summers in Europe contacting the various translation centers in industry and elsewhere who supplied all possible literature available in German and English. At the same time, a number of translators had compiled extensive glossaries in their respective categories which they contributed to the pending supplement. All this material was carefully assembled, examined, and alphabetized and from it was prepared a new German-English supplementary volume of about 50,000 terms.

DeVRIES—German-English Medical Dictionary
By LOUIS DEVRIES, Iowa State University.
560 *pp.*, 6 *x* 9 (1952).....$15.00*m*
Containing some 40,000 German medical terms together with their English equivalents, this is a practical and up-to-date dictionary designed to assist the medical scientist in his work with the important German medical literature. In compiling this volume, Dr. DeVries has had the assistance of seventeen collaborators representing all fields of medicine and the related sciences.

DeVRIES—German-English Technical and Engineering Dictionary
By LOUIS DEVRIES, Iowa State University.
940 *pp.*, 6 *x* 9 (1950).....$25.00*i*
A dictionary for the engineer, research worker, translator, and others in industry and commerce who are in need of quick, accurate translations of technical and engineering terms from *German to English*. Rigidly accurate and technically sound, this dictionary thoroughly treats over 125,000 terms used in all fields of engineering and industry—and gives the precise English translation and definition of each. Reflecting the experience of recent years which have witnessed revolutionary advances in engineering and technology, the book embodies technical nomenclature from the most advanced fields such as radar, electronics, television, jet propulsion, etc. A large number of abbreviations also are included.

DeVRIES—English-German Technical and Engineering Dictionary
By LOUIS DEVRIES, Iowa State University
997 *pp.*, 6 *x* 9 (1954).....$25.00*i*
A companion volume to DeVries' *German-English Technical and Engineering Dictionary*. It is a reference dictionary for the research worker, translator, engineer, and others in industry and commerce who are in need of quick, accurate translations of technical and engineering terms from English to German. Rigidly accurate and technically sound, this volume contains more than 130,000 entries of words used in all fields of engineering and industry, embodying technical nomenclature from the most advanced fields, such as electronics, jet propulsion, radar, television, etc.

Italian and English

GARZANTI—Comprehensive Italian-English English-Italian Dictionary
Edited by MARIO HAZON.
2099 *pp.*, 6⅜ *x* 9⅜ (1963).....$17.50*t**
The product of fifteen years' labor by scholars of both languages, under the direction of Prof. Mario Hazon, this dictionary is an achievement unequaled by any single-volume work ever published before, either in scope or depth. It contains 21,000 entries, imaginatively planned up-to-date appendices, full cross-referencing, English-language abbreviations and the Italian equivalents, geographical and proper names, colloquialisms and scholarly terms in both languages, plus the latest American slang. Phonetic spellings according to the International Phonetic Association are used throughout.
** Not available for sale in Italy and Europe.*

Portuguese and English

SELL—English-Portuguese Comprehensive Technical Dictionary
By LEWIS L. SELL.
1168 *pp.*, 7¼ *x* 10⅝ (1953).....$35.00*i*
Most complete English-Portuguese technical dictionary ever published, covering Portuguese definitions of more than 500,000 English language technical words, terms, phrases and expressions in the fields of aircraft, automobile, railways, highways, sea navigation and shipping, electricity, electronics, radio, television, photography, photogrammetry, building construction, commercial terms, hydraulics, mechanics, civil engineering, steam, automotive and diesel engines, office equipment, sugar-mill machinery, metallurgy, sheet-metal work, machine tools, agricultural implements, paints and dyes, mining, carpentry, petroleum, steel products, etc.

Russian and English

DEPARTMENT OF THE ARMY—English-Russian, Russian-English Electronics Dictionary
By the DEPARTMENT OF THE ARMY.
944 *pp.*, 6 *x* 9 (1958).....$12.00*i*

A comprehensive dictionary in the fields of electronic theory and applications, translating about 22,000 Russian terms and abbreviations into English, and 25,000 terms from English into Russian. Compiled from all modern sources available in the U.S.A., U.K., and U.S.S.R. —including many terms obtained from Soviet factories, research institutions, and individual scientists. Russian verbs are given in both imperfective and perfective forms, peculiar Soviet terms which strictly speaking have no equivalent in Western terminology are explained, terms having two spellings are given in both forms, and an extensive cross-reference system is provided.

The many fields covered include: Antennas and Waveguides, Atomics (principal terms), Aeronautical applications, Batteries, Beacons, Cable, Communications, Computers, Dial telephone systems, Direction finding, Electroacoustics, Electromedical applications, Electron devices, Electronics, Facsimile, High-frequency techniques, Industrial electronics, Marine applications, Measurements and measuring instruments, Modulation systems, Navigation (radio aids to), Optics, Oscillographs, Photo applications, Physics (fringe terms), Pulse work, Radar, Radio, Radio-location, Radiology, RR signals, Interlocking and automatic control, Semiconductors (including transistors), Signaling (including alarm systems), Sound recording, Telegraphy, Telemechanics (including telemetering), Telephony, Television, Tubes and their manufacture, and X-rays.

Spanish and English

GOLDBERG—Spanish-English Chemical and Medical Dictionary

By MORRIS GOLDBERG.

615 *pp.*, 5⅜ *x* 8¾ (1952).....$17.50*m*

This is a companion volume to *the English-Spanish Chemical and Medical Dictionary*, published in 1947. It consists of more than 40,000 entries with English translation and definitions of the most important Spanish language terms pertaining to medicine, surgery, dentistry, veterinary, biochemistry, biology, pharmacy, allied sciences and related scientific equipment. The book has been prepared to meet the need of translators, export managers, chemists, physicians, nurses, and all others who require a knowledge of scientific terms translated from Spanish into English.

GOLDBERG—English-Spanish Chemical and Medical Dictionary

By MORRIS GOLDBERG.

692 *pp.*, 6 *x* 9 (1947).....$15.00*m*

A pioneering work containing the most important English-Spanish terms and their definitions in the medical, chemical, pharmaceutic, veterinary, dental, bacteriological, and related sciences. Names of scientific equipment are included. Over two thousand words found in this compilation cover hormones, sulfa compounds, penicillin, as well as laboratory and hospital equipment.

SELL—English-Spanish Comprehensive Technical Dictionary

By LEWIS L. SELL.

1478 *pp.*, 7½ *x* 11¼ (1944).....$35.00*i*

Translates over 500,000 terms, with synonyms, representing a thorough coverage of technical subjects, from English into Spanish. Contains full coverage of industries treated, including aircraft, automobile, radio, aerial photographic mapping, agricultural implements, electricity, mechanics and machine tools, steel products, petroleum, etc. The entries are completely cross-referenced and contain many synonyms and antonyms.

SELL—English-Spanish Comprehensive Technical Dictionary, Section II

Edited by LEWIS L. SELL.

1088 *pp.*, 10⅝ *x* 7¼ (1959).....$35.00*i*

An English-Spanish dictionary of over 400,000 technical terms and expressions, showing which Spanish terms are proper for any particular Latin American country, and which English expressions are acceptable in the U.S.A., which in Britain. Covers such fields as guided missiles, rocketry, satellites, space travel, atomic and nuclear engineering, electronics, automation, analog and digital computers, data processing, business machines, microwaves, telecommunication, telegraph, telephone, facsimile, color photography, color television, jet aircraft, motion picture and television studio and station equipment, hi-fi, tape recorders, testing, measuring, mining, radiation, scintillation, electroacoustics, radiochemicals, plastics, textiles, radar, and many others. Section II also updates Section I, covering new terms which have become current in the last 15 years in the subjects covered in the earlier volume.

SELL—Spanish-English Comprehensive Technical Dictionary

By LEWIS L. SELL.

1706 *pp.*, 7½ *x* 11¼ (1949).....$40.00*i*

This is a companion volume to the author's English-Spanish Comprehensive Technical Dictionary. It translates 700,000 Spanish technical terms into English with detailed treatment of specific technical idioms current in the various Spanish-speaking countries and the differences between British English and American English. The coverage is thorough for the subjects treated, which include aircraft, automobile, railways, electricity, electronics, radio, and television. The entries are completely cross-referenced and contain many synonyms and antonyms.

College Languages

BLAU—McGraw-Hill SPEAKITS in French, German, Italian, Spanish, and Russian

By DR. BERNARD BLAU.

Each kit contains: two 12-inch vinyl records; manual—128 *pp.*, 6⅝ *x* 10; dictionary 750 *pp.*, 3 *x* 4¼ (1961).....$14.95*t*

Here is a comprehensive, trustworthy system for learning foreign languages quickly and easily at home through scientifically prepared courses and tested study methods. As developed by McGraw-Hill, *Speakit* is a systematic method designed to give anyone an excellent basic command of French, Spanish, Italian, German, and Russian through recordings and a complete step-by-step manual. Experienced teachers explain each lesson simply and concisely; highly trained experts in each language show how it sounds in fluent, realistic conversation. Far more than a collection of travel phrases, the *Speakit* gives a firm command of a language in sensible context. As fascinating as it is easy to comprehend, *Speakit* is based on the scientific principle of learning by ear, coupled with a fully coordinated explanation. Carefully planned drills and

exercises are keyed to increasing knowledge and fluency. Specialists thoroughly familiar with problems of the beginner have prepared both the records and the lessons. Each language is recorded in two phases: *slowly and precisely*, to accustom the untrained ear in new sounds, and *rhythmically and naturally*, as a faithful record of normal speech. The entire *Speakit* was conceived and prepared under the direction of Bernard Blau, Ph.D., presently teaching at Hunter College in New York.

DOMAR—Basic Russian—A Textbook for Beginners

By REBECCA A. DOMAR, formerly of Columbia University.

501 *pp.*, 6 *x* 9, 3 *illus.* (1961).....$6.95*c*
Workbook $3.95*c*

Seven tapes (3¾ ips; 20 min ea.) set $35.00

Here is a logical step-by-step introduction to the Russian language. It consists of an introductory section on phonetics followed by two parts of almost equal length. Part I deals *only* with the two basic elements of Russian grammar: (1) the declension and use of nouns, pronouns, and adjectives in the six cases, singular plural; and (2) the conjugations and aspects of verbs. Part II reviews the two basic grammatical elements and introduces other fundamentals of Russian grammar—the comparative and superlative degrees of adjectives and adverbs, indirect questions, the conditional and subjunctive moods, and the forms and uses of participles. Each of the 53 lessons contains a reading supplemented in Part I by questions pertaining to the reading. The readings include narratives, dialogues, excerpts from a diary, several articles on the geography of the Soviet Union, etc. Russian pronunciation is given considerable space and attention; all grammatical explanations in the book are based on authoritative Soviet sources. The book is amply supplied with tables and exercises to help the reader master fundamental Russian quickly and easily. The tapes cover the phonetics section and the readings and pronunciation exercises of Lessons 1 to 14.

EMERY AND EMERY—Scientific Russian Guide

By MARY A. EMERY, Hofstra College, and SERGE A. EMERY, Professional Engineer, Freeport, N.Y.

200 *pp.*, 6 *x* 9, *illus.* (1961).....$4.95*r*

This collection of graded readings covers about 20 branches of science. The selections are presented in 40 lessons divided into four parts. Each is an interesting, informative, up-to-date article which preserves the style, vocabulary, and mode of presentation of modern Soviet writing. There are helpful questions, glossaries, vocabularies, a list or idiomatic expressions with English translations, and translation examples of technical texts to help the student master scientific Russian. Most of the Russian text and vocabulary is accented; the book does not cover grammar.

CONTENTS—Foreword. SECTION I M. V. Lomonosov. M. V. Lomonosov, continued. N. I. Lobachevsky. V. Y. Struve. B. S. Yakobi. D. I. Mendeleyev. S. V. Kovalevskaya. P. N. Yablochkov. A. G. Stoletov. I. I. Mechnikov. A. S. Popov. N. E. Zhukovsky. I. P. Pavlov. I. V. Michurin. K. E. Tsiolkovsky. SECTION II. The Subject of College Algebra. Electronic Computing Machines. Integral Calculus. Formants of Sound. Application of Radio-receiving Installations. Thermodynamics. General Information about Interferences in Radio Communication. Chemical Physics. Electrical Measurements. The Subject of Electronics. Development of Children Thinking in Russian Schools. Atomic Structure. SECTION THREE. Laboratory Thermostat with Independent Feeding. Number of Crystals Formed by Electrodeposition of Silver under the Alternating Current. Arithometer-Lilliputian. Measurements of Intensity of Cosmic Radiation in the Stratosphere. Causes of Acoustical Defects in Theatrical Halls. Transmutation of the Catechins in Tea Leafs under the Influence of High Temperatures. Energy of X-ray Radiation Emitted by a Powerful Pulsed Discharge in Hydrogen. About the Hydraulic Calculations. Synthesis of the New Kinds of Silicates on the Basis of Silicon-Organic Combination. SECTION FOUR. Prolongation of Human Life. High Frequency Transport. The Wealth of Seas and Oceans. The Moon. Words and Expressions Frequently Used in the Technical Texts. Translation Examples of the Contemporary Technical Texts. Chemical Elements. Weight and Measures. Russian-English Vocabulary. BIBLIOGRAPHY.

EMERY AND EMERY—Advanced Russian

By SERGE A. EMERY, Professional Engineer, New York State; and MARY A. EMERY, Hofstra College.

In Press

Written in simple understandable language, this book helps students learn Russian grammar, particularly syntax. The first part of the book is devoted to syntax; the second examines difficult problems of morphology. Logically organized, first the main and secondary elements of the sentence are explained and then the simple sentences are discussed and explanations about compound and special sentences are given. Outstanding features include explanations on: differences in structure between English and Russian; verbal adverbs; recent changes in Russian grammar.

SCHMIDT WITH RADNER—Beginning German with Films

By S. EDGAR SCHMIDT, with the collaboration of LAWRENCE R. RADNER, Purdue University.

137 *pp.*, 8½ *x* 11 (1960).....$3.00*c*

Reading selections, exercises and vocabulary in German for beginning College students. The book is designed for use with a package of 34 half-hour tape recordings, 15 4-minute color motion pictures and a Teacher's Guide, offered by the Text-Film Department. The materials emphasize the "audio-lingual" approach to foreign language study, recommended by the Modern Language Association, and will be used primarily in college language laboratories.

High School Languages

BATES—Odyssey of Homer

Translated into English verse by HERBERT BATES.

427 *pp.*, 5 *x* 8, *illus.* (1929).....$3.72*s*

A teacher-poet's distinguished translation in iambic pentameter verse.

CONTENTS—Introduction. Homeric Days. Religion. The *Odyssey* as a Story. The *Iliad*. The Form of the *Odyssey*. Pronunciation. Meter. The World of Homer's Day. To the Teacher: Specific Teaching Suggestions. The Odyssey. Appendix: Omitted Passages. Abridgments. Comments upon the Story. Life in Homer's Day—The House, Dress, Ships, The Bow, Shooting through the Aces. Outline of the Action. Important Proper Names. Pronunciation of Proper Names.

COATES—Spanish for Today

By M. W. COATES.

436 *pp.*, 5½ *x* 8, *illus.* (1942).....$2.60*s*

A well-rounded beginning course in Spanish by an experienced high school teacher, featuring a "human approach" and a four-fold aim of reading, writing, speaking, and understanding the language.

BRENES, ADEY, AND SMITH—Learning Spanish the Modern Way

By EDIN BRENES, Purdue University; MARGARET ADEY, William B. Travis High School, Austin, Tex.; and GEORGE E. SMITH, Purdue University.

These textbooks are basic component parts of an integrated program of teaching materials for first- and second-level secondary school Spanish instruction. The books are closely correlated with filmstrips, motion pictures and tape recordings. The core of each unit is a dialogue or a film narration. These serve as the basis for a wide variety of pattern drills and exercises which are reproduced on tape and used to develop listening and speaking skills. Each unit also includes exercises designed to develop the writing skill. The appendix includes a grammar section, which summarizes the important structures that have been taught functionally and inductively by the oral exercises. In addition, there are translations of all dialogs and narrations, a comprehensive verb chart, a Spanish-to-English vocabulary section, and an extensive index.

Book 1

240 *pp.*, 7½ *x* 9¼, 85 *illus.* (1963).$3.96*s*
Correlated Filmstrip Series—11 filmstrips, 19 motion pictures, 50 tape recordings.

Includes the first 16 units which comprise Level I, 11 units of which are based on situational dialogues involving American high school youngsters in typical everyday activities. All other units in the program are based on life in Mexico.

Book 2

240 *pp.*, 7½ *x* 9¼, *illus.* (1963)....$3.96*s*
Correlated Filmstrip Series—11 filmstrips, 10 motion pictures, 50 tape recordings.

Includes Units 17-22 which comprise Level II. All of the units in Book 2 are based on life in Mexico.

EVANS AND BALDWIN—Learning French the Modern Way

By JAMES A. EVANS, Purdue University; and MARIE BALDWIN, Shawnee-Mission North High School, Shawnee-Mission, Kansas.

These textbooks are basic component parts of an integrated program of teaching materials for first- and second-level French instruction.

Book 1

216 *pp.*, 7½ *x* 9¼, *illus.* (1963)....$3.96*s*
Correlated Filmstrip Series—9 filmstrips, 14 motion pictures, 57 tape recordings

Book 1 includes the first 14 units, which comprise Level I. The first 10 units are based on situational dialogs involving American high school youngsters in typical, everyday activities. All other units in the program are based on life in France. The core of each unit is thus either a dialog or a film narration. These serve as the basis for a wide variety of pattern drills and exercises which are reproduced on tape and used to develop listening and speaking skills. Each unit also includes exercises designed to develop the writing skill, as well as grammar notes which summarize the important structures that have been taught functionally and inductively by the oral exercises. The appendix includes exercise answers, translations of all dialogs and narrations, a comprehensive verb chart, a French-to-English vocabulary section, and an extensive index.

Book 2

240 *pp.*, 7½ *x* 9¼, *illus.* (1963)....$3.96*s*
Correlated Filmstrip Series—9 filmstrips, 14 motion pictures, 57 tape recordings.

All of the units in Book 2 are based on motion pictures about life in France. The core of each unit is thus a film narration. The important structures in this narration serve as the basis for a wide variety of pattern drills and exercises which are reproduced on tape and used to develop listening and speaking skills. Each unit also includes exercises designed to develop the writing skill, as well as grammar notes which summarize the important structures that have been taught functionally and inductively by the oral exercises. The appendix includes exercise answers, translations of all dialogs and narrations, a comprehensive verb chart, a French-to-English vocabulary section, and an extensive index.

ST. JOHN AND RIESE—Un Peu de Nouveau

By HELEN B. ST. JOHN, Ontario College of Education, University of Toronto, and DR. LAURE RIESE, Victoria College, University of Toronto.

143 *pp.*, 6 *x* 8½, *illus.* (1961).....$2.00

This anthology of modern French literature for High School students includes short stories, some poetry and a one-act play, all by writers of the twentieth century. The editors have carefully chosen pieces that will provide students with a basis for French conversation in the classroom. Selected works by ten authors are presented; each section is preceded by a short biographical note on the author, written in French. Detailed questions, as well as prose exercises, follow each selection. The vocabulary is complete and contains all explanatory notes.

At present, not one of the selections in this volume can be found in any other anthology. In reading these pieces, all written in contemporary idiom, students will gain a clear idea of modern French literary style.

Linguistics

GARVIN—Natural Language and the Computer

Edited by PAUL L. GARVIN, Thompson Ramo Wooldridge Inc.

In Press

Surveys the entire field of language data processing (in which "language" means a natural rather than an artificial language). Papers presented offer various opinions and approaches which represent the major trends in the field.

LADO—Language Teaching

A Scientific Approach

By ROBERT LADO, Georgetown Univ.

In Press

Incorporates a modern theory of second language learning, a scientifically directed set of principles and techniques for the teaching of a foreign language, and a description and discussion of technological aids—language lab, visual aids, teaching machines, programmed learning. The book contains original contributions in stating a comprehensive psycholinguistic theory of language learning, and practical suggestions for effectively using the language laboratory and other technological aids.

English Language and Literature

Anthologies

DAY—The Greatest American Short Stories
Edited by DR. A. GROVE DAY, University of Hawaii.
395 *pp.*, 5½ *x* 8, *illus.* (1953).....$4.75*tf*†
A collection of the twenty American short stories which have been included in anthologies more times than any others. The editor has gone a little beyond the twenty most popular titles in order to improve balance in the collection.

CONTENTS—The Flowering of the American Short Story. Rip Van Winkle—Washington Irving. The Ambitious Guest—Nathaniel Hawthorne. The Cask of Amontillado—Edgar Allan Poe. The Purloined Letter—Edgar Allan Poe. The Celebrated Jumping Frog of Calaveras County—Mark Twain. The Outcasts of Poker Flat—Bret Harte. The Wonderful Tar-Baby Story—Joel Chandler Harris. The Lady or the Tiger—Frank R. Stockton. An Occurrence at Owl Creek Bridge—Ambrose Bierce. The Gift of the Magi—O. Henry. Paul's Case—Willa Cather. The Lost Phoebe—Theodore Dreiser. The Open Boat—Stephen Crane. I'm a Fool—Sherwood Anderson. Haircut—Ring Lardner. The Fourth Man—John Russell. The Devil and Daniel Webster—Stephen Vincent Benet. The Leader of the People—John Steinbeck. The Secret Life of Walter Mitty—James Thurber. The Bear—William Faulkner. Appendixes. Other American Short Story Classics. Letter to the Reader. Sample Analysis of "Rip Van Winkle." Study Questions on the Stories. Letter to the Teacher.

LASS AND HOROWITZ—Stories for Youth
Edited by A. H. LASS, Abraham Lincoln High School, Brooklyn and ARNOLD HOROWITZ, New Utrecht High School, Brooklyn.
374 *pp.*, 5½ *x* 8 (1950).....$3.60*s*
Each selection of this appealing short-story anthology points up some problem of youth today. Grouped in three sections—What We Live By, Issues Confronting Us, and About People—the stories were selected for their impact and interest, readability, and teachable character. Among the writers represented are: Galsworthy, Pearl S. Buck, Saroyan, Corey Ford, MacKinlay Kantor, Stephen Vincent Benet, Clarence Day, Sally Benson, and Heywood Broun.

JAMES, NORTHCOTT, SHATTUCK, AND KILEY—Literature of the World
By THELMA G. JAMES, Wayne University, Detroit; WALTER R. NORTHCOTT, Miller High School, Detroit; MARQUIS E. SHATTUCK, former Assistant Superintendent of Schools, Detroit and FREDERICK G. KILEY, Trenton State College, Trenton, N. J.
504 *pp.*, 7½ *x* 9¼, 50 *illus.* (1963)..$5.48*sf*
A wide-ranging anthology of literature emphasizing writers and cultural backgrounds around the world. It is composed of 146 selections which includes such authors as Cervantes, Chekhov, Shaw, Dante, Yeats, Pasternak, and Hemingway. Each selection is introduced by the editors and is followed by a set of discussion questions designed to bring out the meaning of the work and to provide the student with practice in close reading and literary analysis. It contains a key to pronunciation of proper names and foreign phrases.

CONTENTS—Stories and Tales from the Past. Stories of the Twentieth Century. Biography and Autobiography. Drama. Poetry. Adventure Around the World. Meetings of Cultures. People and Places. No Man Is an Island.

LAUGHTON—Tell Me a Story
Edited by CHARLES LAUGHTON.
392 *pp.*, 6 *x* 9 (1957).....$6.00*tf*
Charles Laughton, actor and storyteller extraordinary, has reached deep into his cherished bag of stories and has compiled from them an original and entirely different anthology. The stories included here are those that have made the name of Charles Laughton synonymous with the revival of interest in the art of reading and storytelling. Each story, fable, or excerpt from a longer work has been selected with a definite purpose, and each selection has a direct application to contemporary life. Moreover, each tells a story. *Tell Me a Story* is no ordinary collection. Possibly only four or five out of the total of sixty-six are well-known. Mr. Laughton has written an entertaining, witty preface to the book, dividing it into fifteen categories—from *Talking Horse Stories and Other Fables* to *Tales of Derring-Do* to *Science Fiction*—and provided each category and each story with an introduction.

STUART—A Jesse Stuart Reader
By JESSE STUART; MAX BOGART, New Jersey State Department of Education, Trenton; ELLA DEMERS, Long Lots Junior High School, Westport, Connecticut.
350 *pp.*, 5⅜ *x* 8 (1963).....$4.95*td*†
A collection of short stories, poems, and excerpts from three biographies written by one of America's foremost regional writers. Each selection is chosen by Mr. Stuart and preceded by an introduction in which he explains the background of the piece. The selections have been chosen particularly for junior high school readers and emphasize the rich panorama of frontier life which appeals to readers of this age group.

CONTENTS—Jesse Stuart, Short Story Writer. Jesse Stuart, Biographer. Jesse Stuart, Poet. Commentary and Study Questions.

Boswell, Johnson, and Thackeray

BOSWELL—Boswell's London Journal, 1762–1763
By JAMES BOSWELL. Edited by FREDERICK A. POTTLE, Yale University. Preface by Christopher Morley.
400 *pp.*, 6¼ *x* 9¼ (1950).....$7.50*td*
*McG-H Paperbacks Ed.**
The publication of this volume marks a milestone in the history of English literature, for here is an intimate journal of James Boswell, written almost two hundred years ago, which has never before been printed. It is not often that the general reader has foreknowledge that he is privileged to be in at the birth of a classic.

* *Available only through your local bookstore.*

BOSWELL—Boswell in Holland, 1763–1764
By JAMES BOSWELL. Edited with Introduction and Notes, by FREDERICK A. POTTLE, Yale University.
463 *pp.*, 6¼ *x* 9¼ (1952).....$7.50*td*
*McG-H Paperbacks Ed.**
Boswell in Holland takes up the young Scot's life exactly where the *London Journal* left off and the reader again sits at the elbow of a

† *Textbook edition available at educational list price.*

genius as he records in memoranda, letters, poems, themes, and dialogues, his life as a twenty-three year old student of law at Utrecht.

** Available only through your local bookstore.*

BOSWELL—Boswell on the Grand Tour
Germany and Switzerland, 1764
By JAMES BOSWELL. Edited by FREDERICK A. POTTLE, Yale University.
357 *pp.*, 6¼ *x* 9¼, *illus.* (1953)....$7.50*td*
*McG-H Paperbacks Ed.**

At first hand and in detail, here is the complete and intimate journal of one of the most exciting periods in the life of Boswell—his tour of the German courts and his famous visits in Switzerland with two of the greatest men of his time, Voltaire and Rousseau. Professor Pottle supplies illuminating notes throughout and supplements the Journal with letters Boswell wrote and received (including a hitherto unpublished letter from Voltaire).

** Available only through your local bookstore.*

BOSWELL—Boswell on the Grand Tour—Italy, Corsica, and France—1765–1766
Edited by FRANK BRADY; and FREDERICK A. POTTLE, Yale University.
356 *pp.*, 6¼ *x* 9¼ (1955).....$7.50*td*

This fifth volume prepared from the Boswell papers and the fourth by Boswell himself, continues the account of his European travels. He jauntily crosses the Alps into Italy where his philosophical restraint quickly melts under the hot sun of Italy. Sex, religion, and politics—the three subjects of conversation forbidden in polite society—are James Boswell's main concerns.

BOSWELL—Boswell in Search of a Wife
Edited by FRANK BRADY; and FREDERICK A. POTTLE, Yale University.
514 *pp.*, 6¼ *x* 9¼, *illus.* (1956)....$7.50*td*

This fifth volume of Boswell's journals covers a period of four years—the years spent searching for the right woman with whom to spend a lifetime. Appropriately enough, Boswell begins in this volume in April of 1766 holding hands with the gardener's daughter at Auchinleck and three years later, in November of 1769, is married to his gentle and sensible cousin, Margaret Montgomerie. But between, he plays a varied and fascinating field. The story is told through his journal, through notes and memoranda, and in long letters to and from Boswell's confidant, Temple, and Margaret. Other important and dramatic themes are included in Boswell's journals—his zealous battle for General Paoli's cause in Corsica and his activities as a lawyer, including the famous Douglas cause.

BOSWELL—Boswell for the Defence
By JAMES BOSWELL. Edited by WILLIAM K. WIMSATT and FREDERICK A. POTTLE, Yale University.
400 *pp.*, 6½ *x* 9¼ (1959).....$7.50*t*
*McG-H Paperbacks Ed.**

This fascinating new addition to the classic Boswell papers takes up where *Boswell in Search of a Wife* left off, in the year 1772. The first part covers a trip to London, when Boswell is called to the House of Lords to defend a teacher accused of beating pupils too severely. Boswell's witty argument wins the case, and during this period, he renews his friendship with Samuel Johnson. A second London jaunt describes the colorful discussions with Johnson, Goldsmith, Garrick, and others at a literary club. Particularly poignant passages tell of Oliver Goldsmith, who was to die a few months later. The last part deals with Boswell's defense of a butcher accused of stealing sheep. In spite of Boswell's defense, the man is convicted. Boswell follows him all the way to the gallows, still not certain of the man's guilt or innocence as the noose is slipped over his head.

** Available only through your local bookstore.*

BOSWELL—Journal of the Tour of the Hebrides with Samuel Johnson
By JAMES BOSWELL. Edited by FREDERICK POTTLE and CHARLES H. BENNETT, Yale University.
450 *pp.*, 6¼ *x* 9¼, *illus.* (1962)....$10.00*td*

This new edition of a famous classic will delight readers everywhere. It is not only a vitally important contribution for Johnson and Boswell scholars and admirers, but it is also the work, as Macauley said, of a man who was a great writer because he was such a fool. Here, Boswell's indiscretions, weaknesses, and oddities are endless, and the book is far more intimate and fresh in this unexpurgated version. It is also one of the most important travel books ever published, and there are extensive new notes by Professor Frederick A. Pottle, plus a new introduction which adds immeasurably to the volume, whether for the casual reader or the student and scholar.

BOSWELL—The Ominous Years
By JAMES BOSWELL. Edited by CHARLES RYSKAMP and F. A. POTTLE, Yale University.
448 *pp.*, 6¼ *x* 9¼ (1963).....$8.50*td*

This newest volume in the great Boswell series being published by McGraw-Hill covers a period of twenty months that followed Boswell's and Johnson's tour of the Hebrides. Although only four of the months are spent away from Edinburgh, Boswell's descriptions of them occupy more than half the book, and provide long stretches of one of the richest London journals we have. It is the work of a man who hungered to know himself, his passions and pleasures, and the story of his hard work, meditation, sympathy, and despair. "I have some fixed principles. It is my business to navigate my soul amidst the gales as steadily and smoothly as I can." Nevertheless, his ship wandered off course, and his principles and metaphors whirl away. *The Ominous Years* covers a dark stretch of despair, and is the story of a Boswell saturated with violence and vice. We have come to expect from him contradiction, extreme varieties of experience, and the mingling of discordant emotions, and in this segment of his journals, we have a candid study of his temptations, fears, and hazards, but only rarely his achievements.

YALE EDITIONS OF THE PRIVATE PAPERS OF JAMES BOSWELL—6 Volume Set

Includes Boswell's London Journal, 1762–1763, Boswell in Holland, 1763–1764, Boswell on the Grand Tour: Germany and Switzerland, 1764, and *Boswell on the Grand Tour: Italy, Corsica and France, 1765–1766, Boswell in Search of a Wife, 1766–1769, Boswell for the Defense, 1769–1772*
$45.00*td*

RAY—Thackeray
Age of Wisdom (1847–1863)
By GORDON N. RAY, The Guggenheim Foundation.
523 *pp.*, 5⅜ *x* 8⅜, 28 *illus.* (1958)..$8.00*td*
Now, in the companion volume to *Thackeray: Uses of Adversity*, emerges Thackeray, the mature man. Based on Thackeray's private papers, this fascinating picture shows a great man as he deals with the problems of the responsibility of fatherhood, social justice, and an unfulfilled love, which he calls the tragedy of his life. The volume closes with a total evaluation of the man and his work.

College English

ARCHER AND SCHWARTZ—A Reader for Writers
A Critical Anthology of Prose Readings
By JEROME W. ARCHER, Arizona State Univ. and JOSEPH SCHWARTZ, Marquette Univ.
600 *pp.*, 6 *x* 9 (1962).....$5.95*c*
A collection of 80 prose readings set within a rhetorical framework and with an abundance of specific footnote questions placed for realistic pedagogical use. This anthology helps the reader concentrate on the manner in which ideas, moods, feelings, or observations are expressed. The readings are grouped within the rhetorical types—exposition, argument, description, and narration. Selections represent a wide variety of styles and types, and the contemporary as well as the classic are included. Among the subjects treated are: the H-bomb, science, poetry, education, American life, history, and American attitudes towards the full life of man, political science, and religion. Readings include works by such authors as Katherine Ann Porter, Mark Van Doren, Aldous Huxley, Francis Bacon, Jonathan Swift, James Thurber, Somerset Maughan.
CONTENTS—Personal Narrative. Exposition—The Nature of the Subject. Definition—The Uses of Illustrations: Example. Resemblances and Differences: Comparison and Contrast. Functions and Procedures: Process Analysis—The Parts and the Whole. Classification and Division—Why, Whence, What Ends and Results: Cause and Effect—Synthesis: A Combination of the Methods. Argument. Description. Narration—Factual Narration—Fictional Narrative Special Types—Familiar Essay—Book Review—Research Paper. Language and Style.

BAUDIN AND PFEIFFER—Essays for Study
By MAURICE BAUDIN, JR., and KARL PFEIFFER, New York University.
587 *pp.*, 6 *x* 9 (1960).....$5.50*c*
This anthology of prose readings for the first semester of freshman English contains 82 essays—chosen for durability of subject matter, quality of writing, originality of treatment, and power to stimulate student interest. More than 50 per cent of the selections have never before appeared in a freshman reader. The material is arranged in half a dozen broad categories, offering examples of the six basic types of expository prose.
CONTENTS—I. INFORMAL WRITING. REMINISCENCE. The Whistle, Benjamin Franklin. Frieda, Steven Schrader. My Early Training, John Ruskin. Some Early Loves, Hans Zinsser. (Plus selections by Peter Putnam, Jonathan Swift, Jean-Jacques Rousseau, and William Cobbett.) CHARACTERIZATION. How They Weighed Fire, E. M. Forster. The Horse Swap, Augustus B. Longstreet. The Crank, V. S. Pritchett. On People with One Idea, William Hazlitt. (Plus selections by Alistair Cooke, Donald Vining, Charles G. Finney, and Richard Lockridge.) PERSONAL ESSAY. The Enjoyment of Gloom, Clarence Day. Once More to the Lake, E. B. White. On the Need for a Quiet College, Stephen Leacock. An Outline of Scientists, James Thurber. How Shall I Word It?, Max Beerbohm. (Plus selections by John Donne, Charles Lamb, Reuben Maury, and Robert Benchley.) II. FORMAL WRITING. DEFINING AND DESCRIBING. Some Definitions, Ambrose Bierce. Erosion, A. R. Rubine. Genteelism, H. W. Fowler. The Hidden Hungers, Josue de Castro. Style, Samuel Butler. On Mode Minds, Margaret Cavendish. Natural Depravity, Herman Melville. The Definition of Wit, Max Eastman. (Plus selections by Sidney Cox, W. H. Michael, Raoul de Roussy de Sales, Washington Irving, C. Wright Mills, Aristotle, James Fenimore Cooper, Thomas Henry Huxley, Albert C. Barnes, James B. Conant, Harold A. Larrabee, Voltaire, Robert Gorham Davis, James Harvey Robinson, and George Santayana.) EXPLAINING. An Experiment with Lightning, Benjamin Franklin. Why the Sky Looks Blue, Sir James Jeans. Quicksand, Gerard H. Matthes. The Art of Pleasing, Lord Chesterfield. How to Be an Employee, Peter F. Drucker. (Plus selections by Keith Munroe, Dixon Wecter, Marchette Chute, Fred Hoyle, N. H. Swinnerton, Karen Horney, William James, Charles Fort, Thomas De Quincey, A. E. Housman, and Edgar Allen Poe.) EXPRESSING OPINION. A Modest Proposal, Jonathan Swift. The Demeanor of Murderers, Charles Dickens. The Mass Mind, Joyce Cary. Chicago, Aldous Huxley. The Lightning-Rod Man, Herman Melville. (Plus selections by Morton J. Cronin, Stuart Chase, H. L. Mencken, Stefan Zweig, Robert Louis Stevenson, Brand Blanshard, Howard Mumford Jones, Niccolo Machiavelli, Chester C. Maxey, Bertrand Russell, Mark Twain, Margaret MacMullen, Siegfried Mandel and Peter Fingestan.)

BROWN AND FLANAGAN—American Literature
A College Survey
By CLARENCE A. BROWN, Marquette University and JOHN T. FLANAGAN, University of Illinois.
853 *pp.*, 7¼ *x* 9⅞, 65 *illus.* (1961)..$7.95*c*
This anthology is chronologically organized and covers the field of American literature from its beginnings to the mid-twentieth century. Selections are chosen for their literary merit, rather than for historical, socio-economic values. Major writers are represented wherever possible by fresh selections; minor writers whose works contain genuine merit either as literature or as criticism have also been included. Editorial commentary is kept to a minimum, but biographical introductions to the authors, headnotes to more difficult selections, significant cross-references, and selective bibliographies are included.
CONTENTS—Introduction. *Selections by the following authors:* Edward Taylor, Jonathan Edwards, Benjamin Franklin, Thomas Paine, Thomas Jefferson, Washington Irving, James Fenimore Cooper, Ralph Waldo Emerson, Nathaniel Hawthorne, Edgar Allan Poe, Henry David Thoreau, William Cullen Bryant, John Greenleaf Whittier, Henry Wadsworth Longfellow, Oliver Wendell Holmes, James Russell Lowell, Herman Melville, Walt Whitman, Emily Dickinson, Samuel Langhorne Clemens, William Dean Howells, Henry Adams, Sidney Lanier, Henry James, George Washington Cable, Edwin Arlington Robinson, Stephen Crane, Theodore Dreiser, Willa Cather, Robert Frost, Sherwood Anderson, Carl Sandburg, (Nicholas) Vachel Lindsay, Wallace Stevens, William Carlos Williams, (Harry) Sinclair Lewis, Marianne Moore, Robinson Jeffers, T. S. Eliot, John Crowe Ransom, Archibald Macleish, E. E. Cummings, Katherine Anne Porter, F. Scott Fitzgerald, William Faulkner, Ernest Hemingway, Hart Crane, Thomas Wolfe, John Steinbeck, Robert Penn Warren, Eudora Welty. *Summary in Criticism. Selections by the following authors:* H. L. Mencken, Ezra Pound, T. S. Eliot, Edmund Wilson, Malcolm Cowley, Lionell Trilling, Cleanth Brooks.

BUCKLER AND SKLARE—Stories from Six Authors
By WILLIAM E. BUCKLER, New York University and ARNOLD B. SKLARE, C. W. Post College.
512 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.25*cf*
Unlike most collections of short stories, this text provides students both with examples of the art and the means of analyzing the style

and contents of each author. More than a collection of stories, the book gives a penetrating study of how the short story is made and evaluated. Opening with Greene and closing with Conrad, the collection contains 19 stories —four by Greene, three by each of the others. All materials are integrated to introduce the student to the methods of critical analysis, both in form and content and to the use of a fundamental literary vocabulary. A general introduction traces the history of the short story and defines basic critical terms. Each section is prefaced by a biographical-critical sketch of the author. The editors offer an analysis and interpretation of the most provocative or complex story by each author.

CONTENTS—GRAHAM GREENE. Biographic Note. The Basement Room. Across the Bridge. When Greek Meets Greek. The Hint of an Explanation. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition. ROBERT PENN WARREN. Biographical Note. The Life and Work of Professor Roy Millen. The Circus in the Attic. Blackberry Winter. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition. JAMES JOYCE. Biographical Note. Araby. Counterparts. The Dead. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition. WILLIAM FAULKNER. Biographical Note. Barn Burning. A Rose for Emily. The Bear. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition. HENRY JAMES. Biographical Note. The Figure on the Carpet. The Lesson of the Master. The Madonna of the Future. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition. JOSEPH CONRAD. Biographical Note. An Outpost of Progress. The Secret Sharer. Youth. Questions for Discussion. A Suggested Interpretation. Subjects for Written Composition.

HACKETT AND BAKER—On Assignment: Reading and Writing

By HERBERT HACKETT, State University of New York College of Education, Buffalo, and WILLIAM D. BAKER, Rockford College. 339 *pp.*, 6¾ *x* 9¼ (1960).....$3.60*cf*

This text is designed to meet the actual reading and writing problems faced by college freshmen, and to prepare them for regular courses in Freshman English. It includes 25 interesting *college level* readings with instructions on how to read; detailed preparation for writing; and a thorough grounding in the *tools of writing*—grammar, spelling, and vocabulary. The book first induces the student to read for ideas, then leads him from writing to rewriting, and finally to grammar, vocabulary, and spelling. There is a variety of material for the student to work out: reading comprehension checks, discussion questions, short and long fill-in blanks, and detailed exercises. A 118 item Glossary of grammar and usage, a Revision Guide (to indicate major steps in the revision of papers), and a Reading Speed and Comprehension Chart are also included.

CONTENTS—Revision Guide. Introduction. Reporting a Personal Experience. Reporting from Observation. Sharing an Experience. Analysis of an Attitude. Making a Point. Asking and Answering a Question. Using More Than One Source. The Uses of Evidence. When Men Disagree. Using Ideas. Reading for Experience (Supplementary Readings). Glossary. Exercises. Reading Chart.

HAMALIAN AND VOLPE—Essays of Our Time I

By LEO HAMALIAN and EDMOND L. VOLPE, both of City College of New York. 308 *pp.* 5½ *x* 8½, *illus.* (1960).....$2.75*cf*

This collection of essays by contemporary writers, artists, and scientists is stimulating and fresh in viewpoint; every essay but one was written since 1947. Two basic criteria guided the editors' choice of an essay: 1) its interest for students; 2) the quality of the writing. The essays themselves range from lighthearted humor to a serious study of the problems of contemporary life. Nearly all of the contributors have national or international reputations as writers or as experts in their fields.

CONTENTS—Preface. PART 1. If Grant Had Been Drinking at Appomattox, James Thurber. La Valise, Lawrence Durrell. A Visit to America, Dylan Thomas. PART 2. Roadblocks to Bookbuying, Elmo Roper. Books: Gunpowder of the Mind, David Riesman. The Boredom of Fantasy, Arthur Koestler. The Prism of Language, Stephen Ullmann. PART 3. Blood Wedding in Chicago, Robert Lowry. The Great American Game, Bruce Catton. The Call of the Open Road, John Keats. PART 4. Teen-agers in the Looking Glass, Russell Lynes. Success and the Dollar, Geoffrey Gorer. i & selfdiscovery, e. e. cummings. Mother, Aldous Huxley. PART 5. Are We Making a Playground out of College? Jerome Ellison. The Businessman's Moral Failure, Louis Finkelstein. The Good Life, Bertrand Russell. Zen and Intuited Knowledge, Shunzo Sakamaki. The Packaged Soul, Vance Packard. PART 6. The Uncomfortable Facts about Extrasensory Perception, Ian Stevenson. Joey: A "Mechanical Boy," Bruno Bettelheim. The Personal Pain, Ronald Melzack. PART 7. The Analyst's Couch and the Creative Mind, Roger Burlingame. The Creative Life, Henry Miller. The Milk of Paradise, Agnes De Mille. The Cat That Walks by Itself, Jean Cocteau. Modern Art, William Barrett. PART 8. What Do We Know about Love? Julian Huxley. Science and Common Sense, Percy W. Bridgman. Scientist and Humanist, I. I. Rabi. The Fiction of Science, John H. Steele. PART 9. The Faith of a Heretic, Walter Kaufmann. What a Modern Catholic Believes, Philip Scharper. Why I Choose to Be a Jew, Arthur A. Cohen. I Call Myself a Protestant, William Warren Bartley, III.

HAMALIAN AND VOLPE—Essays of Our Time II

Edited by LEO HAMALIAN and EDMOND L. VOLPE, both of City College of New York. 320 *pp.*, 5½ *x* 8½ (1963).....$2.95*cf*

A continuation of the highly successful and popular *Essays of Our Time I*. Here is a collection of penetrating contemporary essays by outstanding artists, thinkers, and scientists, published within the last few years. All the selections are concerned with current issues and views and easily appeal to students. The 43 essays are divided into 10 categories: informal humorous essays, personal reminiscence, issues in education, moral problems, language and writing, shaping of thought, love and marriage, social issues, the two cultures, and philosophical thought. These different thematic units can serve as discussion divisions for a course and as the subjects for themes. Each essay is preceded by a short biographical sketch of the author.

CONTENTS—James Thurber: *The Saving Grace*. Ira Wallach: *From Date to Mate*. Kenneth Tynan: *Just Plain Folks*. John Updike: *The Boys*. Henry Miller: *First Love*. Clancy Sigal: *Open Road*. John Ciardi: *The Unfading Beauty*. Geoffrey Crowther: *English and American Education*. David Riesman: *Where is the College Generation Headed?* Herbert Gold: *A Dog in Brooklyn, A Girl in Detroit: A Life Among the Humanities*. Robert Graves: *Thett*. Jerome Ellison: *College Cheating: American Disgrace*. Douglas Pringle: *In Defense of Blood Sports*. Abba Eban: *The Eichman Trial in Retrospect*. John Kenneth Galbraith: *The Axe of Wordfact*. Marianne Moore: *Abraham Lincoln and the Art of the Word*. André Maurois: *The Writer's Craft*. Paul W. Merrill: *The Principles of Poor Writing*. Joyce Cary: *Art as Means*. Garrett Hardin: *Three Classes of Truth*. A. H. Maslow: *Toward a Humanistic Psychology*. Selma Fraiberg: *The Science of Thought Control*. Stuart Chase: *How Language Shapes Our Thoughts*. Phyllis McGinley: *In Defense of Sin*. Ernest Van den Haag: *Love or Marriage?* Jacques Maritain: *Marriage and Happiness*. Eugene Burdick: *The Polynesian*. Norman Mailer: *The White Negro*. John Fischer: *What the Negro Needs Most*. George Tabori: *The Martian Memo*. Margaret Mead: *Work, Leisure, Creativity*. Randall Jarrell: *A Sad Heart at the Supermarket*. Wolf Mankowitz: *A Pox on the Bitch Goddess*. Brand Blanshard: *The Pros and Cons of*

Conformity. C. P. Snow: *The Two Cultures.* Paul Goodman: *"Applied" Science.* Octavio Paz: *The Dialectic of Solitude.* Juan Ramón Jiménez: *To Burn Completely.*

KITZHABER—Themes, Theories, and Therapy
The Teaching of Writing in College
By ALBERT R. KITZHABER, Univ. of Oregon. *Carnegie Series in Amer. Educ.*
210 *pp.*, 5 1/16 *x* 8 (1963).....$4.95*t*
Soft-cover Edition $2.45*c*

An examination of the nature teaching English composition in colleges. This book evaluates existing courses, using as a detailed example a course given at Dartmouth College, and makes recommendations for improving instruction in composition at the college level. The author studied approximately 100 writing programs and analyzed 500,000 words of student writing to compile this material.

CONTENTS—Teaching English Composition in College. English Composition at Dartmouth College. Trends in Freshman English. The Writing of College Students after the Freshman Year. Recommendations. Appendices.

LESSER AND MORRIS—Modern Short Stories
The Fiction of Experience
By M. X. LESSER, University College, Rutgers, and J. N. MORRIS, Columbia University.
480 *pp.*, 5⅝ *x* 8⅜....*Cloth Edition* $4.95*cf*
Soft-cover Edition $3.75*cf*

This collection of thirty-two short stories by contemporary British and American writers introduces your students to a wide range of techniques and themes. It includes selections by such well known writers as Conrad, Joyce, Hemingway, and Faulkner; plus examples of the works of new writers like Flannery O'Connor, Philip Roth, and John Updike. All of the stories in this collection are centered on the lives of young people, conveying circumstances and feelings familiar to the young.

CONTENTS—"The Downward Path to Wisdom," Katherine Anne Porter. "My Oedipus Complex," Frank O'Connor. "The Use of Force," William Carlos Williams. "The Tree," Dylan Thomas. "Songs My Father Sang Me," Elizabeth Bowen. "The Rocking-Horse Winner," D. H. Lawrence. "Blackberry Winter," Robert Penn Warren. "The Sorrows of Gin," John Cheever. "The Celestial Omnibus," E. M. Forster. "The Artificial Nigger," Flannery O'Connor. "The Innocent," Graham Greene. "Barn Burning," William Faulkner. "Silent Snow, Secret Snow," Conrad Aiken. "The Conversion of the Jews," Philip Roth. "Araby," James Joyce. "A Visit of Charity," Eudora Welty. "The Capital of the World," Ernest Hemingway. "Wunderkind," Carson McCullers. "Susanna at the Beach," Herbert Gold. "The Freshest Boy," F. Scott Fitzgerald. "The Garden Party," Katherine Mansfield. "Tomorrow and Tomorrow and So Forth," John Updike. "Paul's Case," Willa Cather. "Your Body Is a Jewel Box," Kay Boyle. "Ah the University," John Collier. "Of This Time, Of That Place," Lionel Trilling. "I'm a Fool," Sherwood Anderson. "Flight," John Steinbeck. "A Summer's Reading," Bernard Malamud. "A Tree of Night," Truman Capote. "Youth," Joseph Conrad. "In Dreams Begin Responsibilities," Delmore Schwartz.

MILLER—American Dramatic Literature—Ten Modern Plays in Historical Perspective
By JORDAN Y. MILLER, Kansas State University.
641 *pp.*, 6⅜ *x* 9¼, 40 *illus.* (1961)..$6.75*c*

Gives the student a historical and critical background of American drama which enables him to judge the drama *as literature.* Part I provides the historical background of the American theatre essential to an understanding of the position of twentieth century American drama. Part II consists of ten significant American plays written since 1918, each preceded by a short historical and critical introduction. A chronology, play lists, bibliographies, and suggested topics for further study provide assistance in pursuing a more detailed study of the American drama and theatre.

CONTENTS—THE BACKGROUNDS OF MODERN AMERICAN DRAMA. Early Theatres and Performers before the Revolution, 1750–1770. A Permanent Theatre and the First American Plays. American Writers and American Themes, 1800 to the Civil War. The Century of the Great Actor. The Birth Pangs of Realism, 1865–1900. The Period of Transition: The American Stage from 1900 to 1914. The Turning Point, 1914–1918. A Chronology of Significant Events in the American Theatre, 1598–1918. Suggested Topics for Further Investigation and Report. A Select List of American Drama from Colonial Times to 1918. A Selected Bibliography of the American Theatre before 1918. AN ANTHOLOGY OF DRAMATIC ART SINCE 1918. The Modern Realistic Drama: *The Little Foxes,* by Lillian Hellman. The Departure from Realism; *Camino Real,* by Tennessee Williams. The Mature War Play; *Command Decision,* by William Wister Haines. The Creation of a Folk Drama; *Porgy,* by Dorothy and DuBose Heyward. Four Types of Comedy: The Rare Qualities of High Comedy; *Biography,* by S. N. Behrman; Comedy with a Purpose; *The Male Animal,* by James Thurber and Elliott Nugent; The Comedy of Sensibility; *The Member of the Wedding,* by Carson McCullers; The Realm of Fantasy; *Harvey,* by Mary Chase. Tragedy: Most Ancient and Most Neglected; *Desire Under the Elms,* by Eugene O'Neill; *The Crucible,* by Arthur Miller. A Selected Bibliography for Further Study of American Dramatic Literature.

ROBY AND ULANOV—Introduction to Drama
By ROBERT C. ROBY, Marquette University and BARRY ULANOV, Barnard College.
768 *pp.*, 6⅞ *x* 9¼ (1962).....$9.95*t*†

This anthology provides a body of dramatic material which extends historically from the fifth century B.C. to the twentieth century. Types presented range from Greek tragedy to the modern problem play and expressionistic drama, from Roman farce to the comedy of ideas. Each play has been chosen for its inherent quality and its significance in the history of the drama. Individual plays are preceded by brief introductions and followed by selections of critical commentary often from the period of the play itself. These critical excerpts represent various points of view and are centered on crucial problems raised by the play.

CONTENTS—Introduction. Sophocles: *Oedipus Rex,* translated by William Butler Yeats. Euripides: *Medea,* translated by Gilbert Murray. Plautus: *Miles Gloriosus* (*The Braggart Warrior*), translated by G. E. Duckworth. Sir David Lindsay: *The Satire of the Three Estates,* A Modern Version by Robert Kemp. Ben Jonson: *The Alchemist.* John Webster: *The Duchess of Malfi.* Molière: *The Misanthrope,* translated by Richard Wilbur. Jean Racine: *Phaedra,* translated by Kenneth Muir. William Congreve: *The Way of the World.* Henrik Ibsen: *Rosmersholm,* translated by Eva Le Gallienne. August Strindberg: *The Dance of Death,* translated by C. D. Locock. George Bernard Shaw: *Man and Superman.* Anton Chekhov: *The Cherry Orchard,* translated by Constance Garnett. Georg Kaiser: *From Morn to Midnight,* translated by Ashley Dukes. Jean Giraudoux: *Tiger at the Gates,* translated by Christopher Fry. Glossary of Terms. Selected Bibliography. Historical Chart.

SUMMERS AND WHAN—Literature: An Introduction
Edited by HOLLIS SUMMERS, and EDGAR WHAN, both Ohio University.
706 *pp.*, 8¼ *x* 9¼ (1960).....$6.75*cf*

This book offers a selection of poetry, fiction, and drama from American and English literature. It includes a general introduction to literature and introductions to fiction, poetry, and drama. Aids for study and discussion, consist-

† *Textbook edition available at educational list price.*

ing of short critical judgments taken from famous critics and expanded by those of the editors, are interspersed throughout. The emphasis is on the individual story, poem, and play. The introductions, the varied essays (attached to the stories and poems, not directing them), the Critical Miscellanies (short critical judgments to provoke discussion and restudy and provide topics for themes) direct the reader back to the story, poem, and play.
CONTENTS—A Foreword to the Teacher. General Introduction. Fiction—27 short stories. Poetry—231 poems. Drama—7 plays. Sixteen critical essays are interspersed throughout the text.

ULANOV—Makers of the Modern Theater
By BARRY ULANOV, Barnard College.
743 *pp.*, 6⅞ *x* 9¼, 2 *illus.* (1961)..$8.95††
Offers examples of the most significant dramatists or dramatic forms in the modern theater, from Ibsen to the present. The book includes a general introduction, introductions to each playwright and his work, bibliographies, lists of plays by the writers represented and their other writings of complementary interest, and a concluding chart of major events in the modern theater.
CONTENTS—Introduction. Ibsen: *John Gabriel Borkman.* Strindberg: *To Damascus.* Chekhov: *Ivanov.* Hauptmann: *Hannele.* Shaw: *Getting Married.* Yeats: *On Baile's Strand* and *Purgatory.* Synge: *The Well of the Saints.* O'Casey: *Purple Dust.* Toller: *Hoppla!* Pirandello: *Henry IV.* Betti: *The Queen and the Rebels.* Giraudoux: *Sodom and Gomorrah* and *Song of Songs.* Anouilh: *Antigone.* Montherlant: *The Master of Santiago.* Marcel: *Ariadne.* Ionesco: *The Bald Soprano.* Lorca: *Yerma.* O'Neill: *The Long Voyage Home.* Williams: *Camino Real.* Miller: *A View from the Bridge.*

English as a Second Language

CROWELL—Modern Spoken English
By THOMAS L. CROWELL, JR. *The Saxon Series in English as a Second Language.*
168 *pp.*, 8½ *x* 5⅞ (1961).....$2.75*c*
This is an unusually practical, stimulating, and skillfully prepared pronunciation practice book for advanced students. Intonation, and word, phrase, and sentence stress are emphasized in the 74 lessons, 264 questions, 120 dialogues, and 67 quotations which comprise the text.
CONTENTS—Preface. Intonation. Spelling and Pronunciation. Phonetic Symbols. Stress: Words. Production of Sounds. Vowels: Tongue Position. Vowels: Tense and Lax. Diphthongs. Two-Syllable Words: Stress on First Syllable. Group Stress: Articles. Group Stress: Possessive Adjectives. Voiced and Voiceless. Lip Consonants. Difference in Stress. Group Stress: *Some* and *Any*. The Tooth Ridge. Two-Syllable Words: Stress on Second Syllable. Nasal Sounds. Contrastive Stress. Stop Sounds. Three-Syllable Words: Stress on First Syllable. Stop Sounds with Gentle Explosion. *-NG* with Inflections. The Past Form. Three-Syllable Words: Stress on Second Syllable. The *-day* Words. Intervocalic *t*. Near the Teeth. The *-s* Inflection. The *-s* Contraction. Group Stress: Auxiliaries. Question Tags. Tongue Between the Teeth. Two-Syllable Words: Stress on Second Syllable. Group Stress: Prepositions. Distinguishing *a* and Vowel *r*. Group Stress: Personal Pronouns. Group Stress: Prepositions and Pronouns. The Sounds *i* and *dz*. Group Stress: Conjunctions. Syllabic *n* and *l*. Three-Syllable Words: Stress on First Syllable. The Sound *h*. Silent Letters. Two-Syllable Words: Stress on First Syllable. Homophones. Initial *s*. Three-Syllable Words: Stress on Second Syllable. *Have to* and *Has to*. Two-Syllable Words: Stress on Second Syllable. *Going to* and *Used to*. Difference in Voice. Words Ending in *-age*. Two-Syllable Words: Stress on First Syllable. Words Ending in *-ous*. Three-Syllable Words: Stress on First Syllable. Words Ending in *-ry*. Three-Syllable Words: Stress on Second Syllable. Words Ending in *-ic, -ics, -ical*, and *-ically*. Two-Syllable Words: Stress on First Syllable. Words Ending in *-ate*. Two-Syllable Words: Stress on First Syllable. Words Ending in *-ture* and *-sure*. Four-Syllable Words: Stress on First Syllable. Words with *x*. Two-Syllable Words: Stress on First Syllable. Words with *-ci-, -si-*, and *-ti-*. Two-Syllable Words: Stress on First Syllable. Words with *i*. Two-Syllable Words: Stress on Second Syllable. Adjectives Ending in *-ed*. Two-Syllable Words: Stress on First Syllable. Words Ending in *-ace, -ess, -ice*, and *-is*. Two-Syllable Words: Stress on First Syllable.

CROWELL—Modern English Workbook
By THOMAS L. CROWELL, JR. *The Saxon Series in English as a Second Language.*
176 *pp.*, 8½ *x* 5⅞ (1961).....$2.50*c*
This workbook will improve the proficiency of students who have a good command of English. Exercises are intentionally more demanding than those for beginners or intermediates and concentrate on those points which virtually all students find troublesome—such as word order, spelling, use of verb forms, prepositions, and articles.
CONTENTS—Preface. GRAMMAR (201 exercises). VOCABULARY (23 exercises). SPELLING (35 exercises).

CROWELL—Index to Modern English
By THOMAS LEE CROWELL, JR. *The Saxon Series in English as a Second Language.*
In Press
This book answers questions advanced students of English as a second language ask. The questions range from pronunciation, through grammatical terminology, syntax, spelling, use of prepositions, punctuation, to literary devices. Special attention is given to the clarity of the explanations. Answers are presented in an easy-to-understand manner for those who have a knowledge of English but are inexpert in their usage of the language. The book assembles information either previously not available or scattered in numerous sources. The contents are arranged alphabetically for easy reference and an extensive index both by word and by subject matter is included.

CROWELL—Modern English Essays
By THOMAS L. CROWELL. *The Saxon Series in English as a Second Language.*
In Press
A reading and development text for advanced foreign students. The essays are on varied subjects and provide practice in using the same vocabulary in many contexts, in hearing and saying the new words and idioms found in the essays, and in writing. The essays have been edited to eliminate complex structures and vocabulary which might be difficult even for American students. Practice and drill work are provided after each reading assignment. The collection offers intensive practice in syntactical constructions and rhetorical devices and demonstrates the scope and flexibility of literate expression.
CONTENTS—Genius. The Detective Story. The Martian Romances. Archeology. Valley Forge. How John Milton Studied Latin. Semantics. Fiesta. Comedy. A Citizen. Simplicity in Shakespeare. Utopia. Scallops. Money. Astronomy. Setting in Poetry. Apollo. "Sweet Lorraine." The Statue of Liberty. Puns. A Letter of Complaint. Safety. Pussy Willows. Mountain Climbing. The Circus. Memories of Dylan Thomas as a Reader. Petroleum. Jazz. Psychiatry. Thomas A. Edison. The Pleasures of Writing Biography. Daniel Boone. Erudite Village. The Northmen. Nursery Rimes. The Queen's Witty Godson. Metamorphosis. Introduction to Seafaring. Boxing. Cosmetics.

TAYLOR—Learning American English
By GRANT TAYLOR. *The Saxon Series in English as a Second Language.* Second Edition.
327 *pp.*, 8½ *x* 5⅞ (1956).....$2.95*c*

† Textbook edition available at educational list price.

This practical and expertly prepared textbook meets the needs of students at the beginning and intermediate stages of learning English. The approach is a descriptive (or "realistic") one—the English thus described is the informal spoken language used by the majority of native American speakers. Major emphasis is placed on the development of control over essential features of English and the development of a basic vocabulary of 1500 words and idioms. These objectives are achieved through (1) a logical and simplified presentation of grammar and structure, organized into 17 comprehensive lessons, and (2) an emphasis on constant practice, both with the most common elements of English, and with those forms which are most difficult for foreigners to comprehend.

TAYLOR—Mastering American English
By GRANT TAYLOR. *The Saxon Series in English as a Second Language.*
226 *pp.*, 8½ *x* 5⅞ (1956).....$2.95*c*
A comprehensive exercise book, divided into two sections, for intermediate and advanced students. The exercises which comprise Part One make an effective and concise review of the fundamental language materials treated fully in LEARNING AMERICAN ENGLISH. Part Two provides extensive exercises for the student who has already achieved a good control over fundamentals.
CONTENTS—Preface. INTERMEDIATE SECTION (126 exercises). ADVANCED SECTION (185 exercises). Appendix.

TAYLOR—Practicing American English
By GRANT TAYLOR. *The Saxon Series in English as a Second Language.*
327 *pp.*, 8½ *x* 5⅞ (1960).....$3.50*c*
Specifically designed for systematic audio-oral and written pattern practice, this book helps the student attain his most important goal—automatic control over sentence patterns. Beginning with a minimal picture vocabulary and providing for supplementary expansion to a 4000-word vocabulary, the materials are useful for advanced students as well as those on the elementary and intermediate levels. The book is composed of 516 pattern drills, over 300 picture groups and separate word lists which furnish material for additional drill.
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TAYLOR—American English Reader
By GRANT TAYLOR. *The Saxon Series in English as a Second Language.*
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Here is a collection of twelve interesting stories which furnish sufficient materials for an entire semester of reading and vocabulary practice and emphasize the conversion of "passive" language ability (reading and listening) into its "active" counterpart (writing and speaking). Each story is followed by questions, summary sentences, and exercises. A unique feature of the reader is its audio-oral approach—both the exercises and the summary sentences can be used in the laboratory for effective audio-oral drill as well as in the classroom for reading and writing.
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FULLER AND WASELL—Advanced English Exercises
By H. R. FULLER and F. F. WASELL. The *Saxon Series in English as a Second Language.*
196 *pp.*, 7⅜ *x* 5 (1961).....$2.50*c*
Provides the essentials needed by a student who has mastered fundamentals to: 1) practice those fundamentals, and 2) gain a widening acquaintance with and practice in the numerous other habits of the language. The 253 exercises which comprise the text are of three major types: grammar, vocabulary, and composition—many of which furnish material for rapid intensive oral practice in the classroom as well as for actual written work.
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THE NATIONAL COUNCIL OF TEACHERS OF ENGLISH—English for Today
Project Director and General Editor, WILLIAM R. SLAGER, University of Utah.
Consulting Editor, RALPH F. ROBINETT, Head, English Section, Department of Education, Puerto Rico.
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WEEKS—Reading American History
By ALBERT WEEKS, JR., New York Univ.
384 *pp.*, 6 *x* 9, 75 *illus.* (1963).....$5.95*c*
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Uses American history as a means of practicing and studying English as a foreign language. This book helps students improve their reading ability in English, develop their English vocabulary, and improve their ability in English composition. American history is viewed objectively and within the context of current developments, including international relations since World War II; American post-war presidents; and issues and problems relating to war and peace. Chapter exercises test the student on vocabulary, word forms, comprehension, pronunciation, and his ability to assimilate and reproduce the material through outlining, writing, and recitation. Illustrations, maps, charts, time lines, and other guides assist the student in understanding the context in which the vocabulary is used.

Shakespeare

HUBLER—Shakespeare's Songs and Poems

By EDWARD L. HUBLER, Princeton University.

534 *pp.*, 5¼ *x* 8⅜, *illus.* (1959)....$8.25*t*†

Here is an important contribution to Shakespearean scholarship, the first complete, fully annotated edition of Shakespeare's poems. The book includes all the sonnets as well as: "Venus and Adonis," "The Rape of Lucrece," "A Lover's Complaint," "The Passionate Pilgrim," "The Phoenix and the Turtle," the songs from the plays, and such poems from the plays as have an identity in themselves and are of particular merit (sonnets from the texts of the plays . . . some prologues and epilogues). Professor Hubler has written a perceptive introduction to Shakespeare as a poet and has included his own scholarly, extensive notes. There are further notes on the musical settings of the plays.

CONTENTS—Introduction. The Sonnets. Songs and Poems from the Plays. The Passionate Pilgrim. The Phoenix and the Turtle. A Lover's Complaint. Venus and Adonis. The Rape of Lucrece. Index.

Verse

ARMOUR—Light Armour

By RICHARD ARMOUR.

119 *pp.*, 5 *x* 7½, *illus.* (1954).....$3.50*td*

Richard Armour is one of the most published and popular light versifiers in America and his poems have been read by thousands in almost every magazine in the United States from *The New Yorker* and the *Saturday Evening Post* to the *Reader's Digest* and *Country Gentleman*. This book includes 121 of Mr. Armour's best verses, none over a page in length. The book is well illustrated with 60 humorous line drawings by Leo Hershfield.

BRINNIN AND READ—The Modern Poets

An American-British Anthology

Edited by JOHN MALCOLM BRINNIN, Univ. of Connecticut; and BILL READ, Boston Univ.

Photographs by ROLLIE MCKENNA.

448 *pp.*, 6 *x* 9, 80 *illus.* (1963).....$6.75*cf*

Soft-cover Ed. $3.95*cf*

The editors have compiled an introduction to modern poetry by assembling the works of the best modern American and British poets, for example, Eliot, Pound, Frost, Auden, W. S. Merwin, Philip Larkin, James Scully. The poems need not be read with constant reference to elaborate notes and critical documentation. No special school is favored; the editors attempt to include the best in each area. Numerous commentaries on the 201 poems plus bibliographical notes and biographical data in the 82 poets are provided. The informal commentaries are written in non-academic language, providing the information required for a fuller understanding of the poems.

HEINE—Lyric Poems and Ballads

By HEINRICH HEINE; translated by ERNST FEISE.

195 *pp.*, 5 5/16 *x* 8 (Univ. of Pittsburgh Press, 1961; McG-H Paperbacks Ed., 1963) $2.35*pb*

A bilingual edition (German-English on facing pages) of the great German poet's complete lyric poetry.

HILLYER—In Pursuit of Poetry

By ROBERT HILLYER.

224 *pp.*, 5⅜ *x* 8 (1960).....$4.75*t*†

This guide to the most elusive of all—the spirit of poetry—is a new approach to its appreciation, drawing upon the rich works of the English poets for examples. It is through their voices that Mr. Hillyer describes the spirit of poetry, tells what it is, and explains what poets try to do. The mechanics of the poet's craft, appreciation through reading aloud, the history of poetic forms (including a superb analysis of the sonnet and its effect on English poetry) are all explored here by a major poet whose rich and imaginative mind carries the reader along on a spellbinding search.

LIEBERMAN—Poems for Enjoyment

Edited by ELIAS LIEBERMAN, formerly Associate Superintendent, Board of Education, New York City.

510 *pp.*, 4⅞ *x* 7½ (1931).....$4.60*s*

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CONTENTS—Poetry and Prose. The Music of Poetry—Rhythm. The Lyric. Narrative Verse. Condensed Forms. The Sonnet. French Verse Forms. Light and Humorous Verse. Free Verse. Some Great Themes of Poetry. Creative Self-expression. Suggested Readings from Selected Poets. Aids to Interpretation. Index.

STUART—Hold April

By JESSE STUART.

288 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*t*

Summing up a lifetime of poetic expression, Jesse Stuart's new volume of poems recalls the great beauty and truth of the first book he ever published, his 622 sonnets entitled *Man with a Bull-tongued Plow*. Pulitzer Prize–winning poet Robert Hillyer says of this new volume, " . . . a beautiful book, a rare book, having its own golden place in our too-often shadowy literature." Jesse Stuart has received a number of outstanding literary prizes, most recently the 1961 $5,000 Award of the Academy of American Poets "for distinguished poetic achievement."

† *Textbook edition available at educational list price.*

Communication

General and Introductory

JOHNSON, SCHALEKAMP AND GARRISON—Communications
Handling Ideas Effectively
By ROY IVAN JOHNSON, University of Florida, MARIE J. SCHALEKAMP, Mason City Junior College, and LLOYD A. GARRISON, University of Denver.
372 *pp.*, 6 *x* 9, *illus.* (1956).....$5.50*c*
A unified text for freshman courses which integrates the subjects of writing, reading, speaking, listening, and observing. Treating communication as an integral part of the learning process (in fact, of the total development pattern), the authors hold to a threefold purpose: (1) to develop positive attitudes on the part of the student toward the communication subjects; (2) to improve his skills in these fields; and (3) to facilitate his personality development through the use of these communication skills.
CONTENTS—Getting the Most Out of College. The Pursuit of Knowledge. Rules for Better Reading. The Hearing Ear and the Seeing Eye. The Nature and Function of Language. What Your Mind Does with Ideas. The Imperative Need for Expression. The Art of Discussion. Making Reports: Materials and Methods. Other Occasions for Writing and Speaking. Developing Your Editorial Skill. Index.

THOMPSON—Fundamentals of Communication
An Integrated Approach
By WAYNE N. THOMPSON, University of Illinois, Navy Pier.
582 *pp.*, 6 *x* 9, 27 *illus.* (1957).....$5.95*c*
This introductory text, which includes under one cover both a textbook and a manual of usage, is founded upon the premise that communication is a definable whole and that it is something more than a combination of reading, writing, speaking, and listening. The aim of the author, therefore, has been to integrate the various disciplines and to give the student specific guidance as well as general instruction. Based on the theory that students learn by doing, the first two chapters and the appendix present basic information, but the other twenty chapters pose problems for the student to solve and suggest activities for him to carry through.
CONTENTS—Communication, Business, Democracy—and You. The Medium of Communication. Self-analysis. Techniques of Reception. Techniques of Presentation. Analysis of Listener and Reader. Topic and Purpose. Material for Communication. The Development of an Idea. The Organization of Ideas. Language Usage. Narration. Description. Exposition. Argumentation. Persuasion. The Précis. The Special Report. The Research Paper. Business Communication. Social Communication. The Mass Media of Communication and the Individual. A Manual of Written Usage. Index.

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Your Language, Book 4. By LOU LA BRANT, MARGARET PAINTER, and ROBERT U. JAMESON, Haverford School, Haverford, Pennsylvania.
512 *pp.*, 6 *x* 9, 138 *illus.* (1959).....$4.28*s*
Your Language, Book 5. By LOU LA BRANT, WILLIAM G. LEARY, Los Angeles State College, DONALD A. BIRD, Los Angeles State College, and MARGARET PAINTER.
512 *pp.*, 6 *x* 9, 110 *illus.* (1960).....$4.60*s*
Your Language, Book 6. By LOU LABRANT, WILLIAM G. LEARY, and DONALD A. BIRD.
512 *pp.*, 6 *x* 9, 85 *illus.* (1962).....$4.60*s*
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Writing

FLESCH AND LASS—The Way to Write
By RUDOLF FLESCH; and A. H. LASS, Abraham Lincoln High School, Brooklyn, New York. Second Edition.
470 *pp.*, 5 *x* 8, *illus.* (1955).....$4.48*s*
Emphasizes clear thinking and effective communication of ideas. It treats all aspects of composition (sentence structure, paragraphing, punctuation, grammar, diction) as problems in meaning rather than as exercises in blindly following rules. Each writing problem is discussed in terms of the student's own experience. The end papers of the book provide teacher and student with a list of topics for quick reference.
CONTENTS—PART I. HOW TO WRITE. How to Start. How to Get Ideas. How to Put Your Ideas in Order. How to Write Up Your Ideas. How to Tie Your Ideas Together. How to Talk to a Reader. How to Say It on Paper. How to Save Words. How Not to Puzzle Your Reader. How to Save Your Reader Extra Work. How to Get the Most Out of Words. How to Find the Right Word. How to Make It Fun to Read. How to Give It Punch. How Writers Write. PART II. WHILE YOU WRITE. Best Foot Forward. Why Grammar? The Sentence. The Verb. Verb and Subject. Pronouns. Adjectives and Adverbs. The Correct Word. Spelling. Quotation Marks. Plurals and Possessives. Capitalization. Punctuation. Letter Form. Index.

GUNNING—The Technique of Clear Writing
By ROBERT GUNNING.
275 *pp.*, 5½ *x* 8, *illus.* (1952).....$4.50*tL*

By using Mr. Gunning's logical formula for testing readability and by following the principles he lays down here, anyone can learn to banish the fog from his writing and to communicate ideas clearly.

CONTENTS—Part One: The Fight Against Fog. What Every Writer Should Know about Readers. Readability Yardsticks. Part Two: Principle One—Keep Sentences Short. Principle Two—Prefer the Simple to the Complex. Principle Three—Prefer the Familiar Word. Principle Four—Avoid Unnecessary Words. Principle Five—Put Action in Your Verbs. Principle Six—Write Like You Talk. Principle Seven—Use Terms Your Reader Can Picture. Principle Eight—Tie in with Your Reader's Experience. Principle Nine—Make Full Use of Variety. Principle Ten—Write to Express Not Impress. Part Three. The Fog in Your Newspaper. Business Writing. Legal Prose. Technical Writing. Appendix.

HICKS—Successful Technical Writing

By TYLER G. HICKS, Cooper Union School of Engineering.

287 *pp.*, 5⅜ *x* 8, 30 *illus.* (1959).....$6.50*t*

Clear, step-by-step methods to guide you from the beginning to the end of any technical, engineering, or scientific writing job. Covers technical articles, papers, reports, instruction and training manuals, and books. Shows where to look for ideas, how to evaluate them, how to build an idea into an outline, how to write up the idea, and how to work with editors and publishers in getting the idea into print.

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NEW YORK TIMES STYLE BOOK FOR WRITERS AND EDITORS

128 *pp.*, 6 *x* 9 (1962).....$3.50*td*

Offering information never before organized for use by the general public, nor distributed by a book publisher, this style book will be of immeasurable interest and value to writers, journalism students, editors, teachers, and everyone else interested in language and usage. As the world's greatest newspaper, *The New York Times* has had to establish rules that could be readily referred to in order to assure consistency of spellings, capitalization, punctuation, and abbreviation. A greater part of the book is alphabetically ordered to make entries easy for the reader to locate. In addition, examples of different classes of headlines used by the paper are given, plus instructions for making manuscript and proof for printers. As the introduction points out, the rules have been set up to encourage thinking, not to discourage it, and "The rule of common sense will prevail at all times."

SHIDLE—Clear Writing for Easy Reading

By NORMAN G. SHIDLE, Publication Division, Society of Automotive Engineers.

176 *pp.*, 5½ *x* 8 (1951).....$4.75*t*

This book is designed to help people get their ideas from the written page into readers' minds in the most efficient and effective manner. It describes and teaches the application of a specific method for writing reports, letters, memoranda, and articles, designed to inform, sell, or influence readers. More than the usual attention has been concentrated on the everyday tasks of writing and there are numerous practice exercises and examples of good and bad writing throughout the book.

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ROBINSON—Twelve Steps to Effective Writing

By BERTON ROBINSON.

96 *pp.* (1963).....$2.95

The purpose of this book is to present some basic principles for writing clear, effective English. These principles apply to any type of written communication from personal notes to business letters, technical reports, minutes, school examinations, essays, news stories, books, and scholarly treatises, etc. As the title suggests, the book is organized into twelve steps, each step being a unit embodying a fundamental principle embracing either grammar, semantics, good stylistic practice, or all three.

TWELVE STEPS TO EFFECTIVE WRITING is planned to help those with an elementary knowledge of grammar and style to improve their writing. It has an unusual approach to the problems of grammar semantics and idiomatic usage, treating each as a part of the whole scheme for producting clarity in writing rather than as ends in themselves.

Composition and Grammar

CONRAD, EVANS, AND HARRIS—Using Your Language

By JAMES L. CONRAD, West High School, Cleveland, VERDA EVANS, Cleveland Public Schools, and EMILIE L. HARRIS, West High School, Cleveland, Ohio.

Book 1. 192 *pp.*, 8½ *x* 11 (1956)....$1.72*s*
Book 2. 192 *pp.*, 8½ *x* 11 (1955)....$1.72*s*
Book 3. 192 *pp.*, 8½ *x* 11 (1955)....$1.72*s*
Book 4. 192 *pp.*, 8½ *x* 11 (1958)....$1.72*s*

A series of four English language workbooks for grades 9 to 12. Each book contains nine units covering grammar, spelling and usage, mechanics, letter-writing, and paragraph and theme writing, with the emphasis heaviest on mastering grammatical and mechanical principles at the lower level, and on developing writing and reading skills in the twelfth-grade book. These workbooks consist largely of drill exercises, but they include full explanations of rules and many examples. Special features include vocabulary-building lessons and cumulative reviews at the ends of the units.

CONTENTS—Book 1. Improving Your Reading Habits. Recognizing a Sentence. Recognizing the Parts of Speech. Building Sentences. Capitalization and Punctuation. Usage. Spelling. Writing a Friendly Letter. Bread-and-butter Writing. Writing a Paragraph. Reference Section.

CONTENTS—Book 2. Grammar. The Sentence. Capitalization and Punctuation. Usage. The Word. Spelling. Outlining, Paragraphs, Themes. Letters and Business Forms. The Book Review. Reference Section.

CONTENTS—Book 3. Grammar. The Sentence. Capitalization and Punctuation. The Exact Word and Usage. Spelling. Outlining Themes. Letters and Business Forms. Your Autobiography. Reference Section.

CONTENTS—Book 4. Techniques for Taking Tests. Reading Skills. Punctuation and Capitalization. Grammar Review. Usage. Spelling. Letters and Application Forms. Précis Writing. The Research Paper. Reference Section.

JOHNSON—Improve Your Own Spelling

By ERIC W. JOHNSON, Germantown Friends School, Philadelphia. Revised Edition.

128 *pp.*, 6⅜ *x* 9¼ (1962).....$1.40*s*

This is a spelling book for the student who wishes to improve his own spelling at his own speed and more or less on his own. It starts where the student is and proceeds from there as fast as the student wants to go. The book is divided into four parts (1) an explanation of the importance of spelling, a concrete description of the best way to learn to spell, and suggestions for self-testing, (2) an alphabetized word list of approximately 4700 words most frequently used by students, with an indication of the frequency of each word, (3) five word lists based on frequency levels for the student who wishes to learn the 4700 words systematically and for the teacher who wishes to hold regular classroom spelling periods, (4) a section of lined, alphabetized pages on which the student can write the less common words he personally wants to use. The book is useful for students in grades 7 through 12, for college students, and for adults who have spelling difficulties.

CONTENTS—A Word to the Teacher. How to Improve Your Own Spelling. Six Spelling Rules. A Score of Tricks. Word-copying Test. 120 Spelling Demons. States, Nations, and Cities. SPEWOL (Spelling Word List). Word Groups. Using the ALPA (Alphabetized Pages for Your Own Words).

SHAFFER AND SHAW—McGraw-Hill Handbook of English

By VIRGINIA SHAFFER, John Hopkins University, and HARRY SHAW, formerly New York University. Second Edition.

500 *pp.*, 4¾ *x* 8, 25 *illus.* (1960)....$4.75*t*†

Soft-cover Edition $2.36*s*

This complete and concise guide to written and spoken English includes a new introduction to levels of usage reflecting the latest scholarship in this area; additional exercises for points of grammar and usage that teachers find especially troublesome to teach; and revised sentence exercises graded according to difficulty. The material also provides a section on taking tests to give students practical experience with a variety of different testing techniques; a section on clear thinking emphasizing the importance of saying and writing what you mean; an expanded section on the dictionary and its use, with a sample dictionary page; and an expanded section on writing for special purposes, including new material on report writing. The convenient format has two colors throughout the book. The Second Edition retains all the important features of the first edition: clear and concise explanation of grammar and usage with abundant examples; planned application of each rule following the statement of the rule; carefully graded exercises to meet the needs of students of varying ability; and practice sentences taken from actual student themes.

CONTENTS—Grammar. Usage. Capitalization. Punctuation. The Word. The Sentence. The Paragraph. Thinking Clearly. The Whole Theme. The Research Paper. The Precis and Paraphrase. Writing for Special Purposes. Appendix: Taking Tests. Diagraming.

SHURTER—Handy Grammar Reference

A Guide to Better English

By ROBERT L. SHURTER, Case Institute of Technology.

90 *pp.*, 6 *x* 9 (1959).....$1.25*pb**

Provides answers to questions about correct usage which frequently confront the student. Principles of correct English are illustrated with simple, everyday examples. The book is divided into four main sections: parts of speech, the sentence, punctuation, and mechanics. This handy reference represents the final section of the author's widely successful text, *Written Communication in Business.*

CONTENTS—Preface. PARTS OF SPEECH. Verbs. Pronouns and Nouns. Adjectives and Adverbs. Conjunctions and Prepositions. THE SENTENCE. Structure. Logic and Consistency. Modifiers. PUNCTUATION. Comma. Semicolon. Colon. Apostrophe. Quotation Marks. End Marks. Dashes. Brackets. Parentheses. Hyphen. MECHANICS. Numbers. Capitalization. Italics. Footnotes and References. Spelling. Special Forms of Address and Salutation. Abbreviations for Names of States.

* *Available only through your local bookstore.*

STRATTON—A Guide to Correct English

By CLARENCE STRATTON.

310 *pp.*, 6 *x* 9 (1949).....$4.95*t*

*McG-H Paperbacks Ed.**

A book for all those who are interested in improving their language equipment, for those who want to brush up on earlier teaching in grammar; who want to bring themselves up-to-date on the latest language practices; who want to make clear expression and vivid speech second nature. Especially recommended as a stimulating and authoritative introduction to English grammar for foreign students.

* *Available only through your local bookstore.*

YOUNG AND SYMONIK—Practical English

An Introduction to Composition

By CHARLES E. YOUNG and EMIL F. SYMONIK, Milwaukee School of Engineering.

159 *pp.*, 7¼ *x* 9⅞ (1958).....$2.95*c*

A concise text and workbook on the essentials of grammar and composition for first-term English. It is designed to fit the needs and time limits of technical institute and engineering college courses as well as refresher courses. Provides a simple, clear, and terse presentation of the rules and principles of functional grammar, with ample illustrations and exercises that apply the principles. Pages are perforated. Text aims to help students become better users of the language, and to become disciplined to techniques leading to an understanding of language.

CONTENTS—Purpose. Definition. Syntax. Words—Parts of Speech. Nouns. Pronouns. Verbs. Regular and Irregular Verbs. Adjectives. Adverbs. Prepositions. Conjunctions. Interjections. Sentences and Phrases. Punctuation. Words. Vocabulary in General. Spelling. Writing. Usage.

Handwriting

SLOTE—Improve Your Handwriting

By CLAIRE TRIEB SLOTE.

120 *pp.*, 5 *x* 7½ (1958).....$3.50*t*

One of the most valuable skills has been grossly neglected. Every day hours are lost, costly mistakes are made because of illegible handwriting. This book gives tested techniques, actual illustrations and show-how help to make handwriting readable. Includes drills in penmanship, number writing, a brief history of

† *Textbook edition available at educational list price.*

handwriting. Also includes special section to help children improve their handwriting. Of particular value to businessmen, accountants, doctors, lawyers, students, secretaries.

Reading

LEEDY—Reading Improvement for Adults

By PAUL D. LEEDY, Dept. of Education, American University, Washington, D. C.

475 *pp.*, 6 *x* 9, *illus.* (1956).....$6.95*t*
*McG-H Paperbacks Ed.**

Offers a complete course in reading instruction for the individual or groups of adults who want to learn how to read more efficiently—with greater speed and comprehension. It is not a remedial reading book, but is intended to meet the demands that confront the average adult reader. The book seeks to improve reading at the basic level where all real improvement must take place.

CONTENTS—You Can Improve Your Reading. What Does It Mean to Read Well? How Well Do You Read?—Now? Why Paragraphs? How Flows the Thought? Punctuation: The Traffic Lights of Reading. Higher Speed with Less Effort. What Is Your Purpose in Reading? Skimming—Key to Rapid Reading. Reading to Follow Directions. How to Remember What You Read. Why Did the Author Write This? Readability as an Aid to Better Reading. How to Read a Newspaper. Graphs, Maps, Charts, and Other Visual Aids. Meeting the Reading Demands of Business. Reading the Technical Report. Reading for Enjoyment. How Well Do You Read—Now? Word Power. APPENDIX. Reading Improvement and the Use of Instruments. How Much Do You Know? Table of Reading Rates. VISUAL AIDS. ANSWER KEY.

* *McG-H Paperbacks Ed. available under the title of* IMPROVE YOUR READING. *Available only through your local bookstore.*

Thinking

KEYES—How to Develop Your Thinking Ability

By KENNETH S. KEYES, JR.

264 *pp.*, 5½ *x* 8, *illus.* (1950).....$5.95*tL*
*McG-H Paperbacks Ed.**

This book teaches how to think clearly, not only in the problems of business and day-to-day living, but also in questions of world significance, especially meaningful today when there is such an urgent need for sound thinking and considered judgments. Mr. Keyes achieves just the right combination of seriousness and humor to make this both a practical handbook and a highly readable volume. He has reduced the principles of semantics to simple practical steps that anyone can understand and adapt to his own purposes to increase his thinking capacity. Entertainingly illustrated with eighty-one full page drawings by Ted Key, creator of the *Hazel* cartoons.

* *Available only through your local bookstore.*

Listening

NICHOLS AND STEVENS—Are You Listening?

By RALPH G. NICHOLS and LEONARD A. STEVENS.

235 *pp.*, 5⅜ *x* 8 (1957).....$4.95*t*

The average businessman spends 40% of his day listening. This first book on the subject pioneers a new science of vital concern to business management and the education field, the world of sales, radio and television, all concerned with aural communication. It shows how to capture highlights of a communication, how to concentrate, how emotions affect what is heard, the six bad habits of listening, how to improve listening ability in business, in school, and at home. Listening provides the key to learning, to effectiveness in our jobs, to the pleasures and profits of conversation: Dr. Nichols, Head of the Department of Rhetoric at the University of Minnesota, is one of the first to do extensive research into the field of listening. Mr. Stevens, a free-lance writer, has worked closely with Dr. Nichols in researching and investigating this subject.

Library

GATES—A Guide to the Use of Books and Libraries

By JEAN GATES, District of Columbia Teachers College.

256 *pp.*, 5⅜ *x* 8, 15 *illus.* (1962)
Cloth Edition $3.95*c*
Soft-cover Edition $2.50*c*

This is a brief but comprehensive treatment of books and libraries and of their importance in our cultural heritage and in our daily life. It emphasizes the many kinds of library materials, both general and specialized, and the skills required in locating, selecting, describing, using, and evaluating these materials for specific purposes. Selected examples of a great variety of library materials are given with descriptive comment, and learning experiences in every area of emphasis are provided. Special attention is given to college libraries and to ways of using them most effectively.

CONTENTS—Preface. Introduction. THE LIBRARY. A Brief History of Books and Libraries. The College Library. The Parts of the Book. THE ORGANIZATION AND ARRANGEMENT OF LIBRARY MATERIALS. Classification. The Card Catalog. GENERAL REFERENCE MATERIALS. Reference Materials. Dictionaries. Encyclopedias. Indexes. Biographical Dictionaries. Atlases and Gazetteers. Yearbooks and Handbooks. Bibliographies. Special Materials. SUBJECT REFERENCE MATERIALS. Subject Reference Materials. Philosophy and Psychology. Religion and Mythology. History, the Social Sciences, and Education. Language (Philology). The Sciences. The Fine Arts. Literature. USING THE LIBRARY FOR A RESEARCH PAPER. The Undergraduate Research Paper. APPENDIX—Some Abbreviations in Common Use; Suggested Exercises; Library Instruction Syllabus. INDEX.

Business and Technical English

General

BUTERA AND KRAUSE—Business English for Colleges

By MARY C. BUTERA, Coldey-Beacom School of Business; and RUTHETTA KRAUSE, Indiana State College.

In Press

A new text-workbook in the basic fundamentals of English grammar, punctuation, and usage designed for students with limited training. Especially suitable for short-courses, refresher training, and remedial work.

LARSON—Business English Essentials

By GRETA LARSON, Kinman Business University, Spokane, Washington. Second Edition.

188 *pp.* (1959) $2.95*bc*

A text-workbook especially intended for a "lightning grasp" of English fundamentals. The over-all review and preparation provided in the text are invaluable aids to the student who is about to get a job in a business office. Material is so presented that the student realizes there are no boundaries between subjects taught in the English department—all are thought of as *one unit*. The book begins with grammar and spelling, but punctuation study is started in the first week and letter writing just as soon as the student has a working knowledge of punctuation. Can be taught in 30 to 40 hours. The text is divided into twelve sections, making it easily adaptable to the twelve-week system or the more concentrated six-week course.

MONRO AND WITTENBERG—Modern Business English

A Text-Workbook in English Usage

By KATE M. MONRO and MARY ALICE WITTENBERG, Los Angeles City Schools. Third Edition.

224 *pp.*, 8½ *x* 11 (1961) $4.20*bc*

Tests ..... $.90*bc*

A practical guide to grammar, capitalization, punctuation, use of words, and letter forms. Designed for classroom discussion with built-in homework assignments. Each topic is thoroughly explained, illustrated, drilled, and tested through the use of preliminary surveys, study guides, application exercises, and reviews.

CONTENTS—The Importance of Business English. Student Progress Record. Nouns. Pronouns. Verbs. Adjectives, Adverbs, Prepositions, and Conjunctions. Phrases, Clauses, and Sentences. Capitalization. Numbers. Punctuation. Words and How to Use Them. INDEX.

Business English and Communication

HUNSINGER—Business Correspondence for Colleges

Text-workbook

By MARJORIE HUNSINGER, Michigan State University, East Lansing, Michigan.

256 *pp.*, 8½ *x* 11, *illus.* (1960) $4.40*bc*

Tests (Jelley) ..... $.95*bc*

New letter-reading approach to business letter writing. Completely self-contained; suitable for one or two semester courses. Functional presentation provides many actual business letters that have been successful. Letters are analyzed, with help of appraisal-guides and check-lists, before actual letter writing begins.

CONTENTS—Part 1. Road Signs to Better Business Correspondence. What Is a Good Business Letter. Part 2. Mechanics of Good Letter Writing. Does the Letter Look Inviting? Stationery. Parts of a Letter. Letter Styles. The Final Touch. Part 3. Principles of Good Letter Writing. Will the Letter Be Understood? Correct Word Usage. Construction. Is the Tone of the Letter Appropriate? Will the Letter Build Good Will? Part 4. Writing the Letter. Planning the Message. Delivering the Message. Part 5. Common Types of Business Letters. Writing Orders and Replies to Orders. Writing Inquiries and Replies to Inquiries. Writing Everyday Letters with Special Problems. Writing Good-will Letters. Writing Sales Promotion Letters. Writing Letters Concerning Adjustments. Writing Letters Concerning Credit and Collections. Writing Letters Concerning Employment. Letters the Secretary Writes. Part 6. Other Forms of Business Writing. Memorandum and Reports. Reference Sections.

MAYO—Communications Handbook for Secretaries

A Guide to Effective Writing and Speaking

By LUCY GRAVES MAYO, Katherine Gibbs School, New York.

576 *pp.*, 6⅜ *x* 9¼ (1958) ..... $8.95*t*†

*McG-H Paperbacks Ed.**

Workbook I—Communications Practice (Part 1–6) $2.90*bc*

Workbook II—Language Skill (Part 7) $3.20*bc*

High-level, sophisticated, one-volume reference and instruction manual for secretaries and secretarial students. Conversational style. Includes models, methods, and specific techniques for all types of business communications . . . with a secretarial point of view.

CONTENTS—PART 1. THE SECRETARY WRITES FOR BUSINESS. Your Business Writing Point of View. Writing Faults That Foil Your Purpose. The Secretary's Professional Writing Kit. Consider the Words You Use. Consider the Sentences and the Paragraphs You Write. PART 2. WHAT THE SECRETARY WRITES ABOUT. Asking Letters. Responding to Asking Letters. General Administrative Letters. Executive Correspondence. Formal (Social) Correspondence. Letters That Sell. Claim and Adjustment Letters. Credit Letters. Collection Letters. Application Letters. Report Writing. Interoffice Memoranda. Telegrams and Cablegrams. PART 3. THE SECRETARY WRITES LETTERS THAT ARE ATTRACTIVE IN APPEARANCE AND CORRECT IN FORM. Letter Parts. Envelopes. Special Forms of Address. PART 4. THE SECRETARY TALKS FOR BUSINESS. The Secretary Uses the Telephone Skillfully. The Secretary Meets Callers Graciously. PART 5. THE SECRETARY PLANS FOR BUSINESS MEETING AND TRIPS. Planning for and Reporting upon Meetings, Conferences, Conventions. Making Travel Arrangements and Preparing Itineraries. PART 6. THE SECRETARY KNOWS WHERE TO FIND FACTS. The Secretary Knows Her Dictionary. PART 7. THE SECRETARY KNOWS LANGUAGE MECHANICS. Sentence Construction. Characteristics of Verbs and Verbals. Characteristics of Nouns. Characteristics of Pronouns. Characteristics of Adjectives. Characteristics of Adverbs. Characteristics of Connectives. Uses of the Hyphen. Punctuation. Style in Business Communications. Capitalization. Abbreviations, Use of Figures.

* *Available only through your local bookstore.*

MURPHY—Better Business Communication

By DENNIS MURPHY.

McG-H Paperbacks Ed. $2.45*pb**

Management *is* communication; job fulfillment *is* communication. That is the twofold thesis of this book which is designed for those preparing for and those already in business and industry. Written in informal style, it covers the seven skills of human and nonmechanical communication in business—thinking, doing, observing, talking, listening, writing, and reading. The reader should gain the following benefits immediately: practical help in straight thinking, awareness of the creative ability of the man on the job, and realization that doing is the end

† *Textbook edition available at educational list price.*

result of communication. Students will benefit by learning how to observe more accurately, talk more clearly, listen more carefully, write more simply, and read more thoughtfully. The text is short, easy-to-read, and illustrated with cartoons.

CONTENTS—Our Need for Communication. Logical Thinking. Creative Thinking. Doing. Observing. Talking. Making a Speech. Dictating. Telephoning. Listening. Writing. Putting Words to Work. Managing Sentences. Letter Writing. Report Writing. Reading. What Management Can Do to Improve Communication.

** Available only through your local bookstore.*

ROBERTSON AND CARMICHAEL—Business Letter English

By H. O. ROBERTSON and VERNAL CARMICHAEL, Olivet Nazarene College, Kankakee, Illinois. Second Edition.

512 *pp.*, 6 *x* 9 (1957).....$5.25*bc*

Revised edition of a popular presentation of English and of business correspondence for use in collegiate classes in Business English, Business Correspondence, and Business Report Writing. Not a refresher course in English essentials, but a complete and detailed *restudy* of English fundamentals—from parts of speech to sentence structure and punctuation. After English mastery is regained, student is taught to use the authors' unique "formula method" of writing effective business correspondence—a step-by-step method that guarantees concise, purposeful, intelligent business writing.

SHURTER—Written Communication in Business

By R. L. SHURTER, Case Institute of Technology.

550 *pp.*, 6 *x* 9, 27 *illus.* (1957)....$9.95*t*†

Covers all the forms of written communication used in today's business—business letters, memorandum, reports, the telegram, the process of dictation. It begins with a statement of the fundamental principles and goals of written communication and the technique of getting ideas across in writing. These principles are then applied to the specific types of writing used in business. The book is unique in containing a Projects Section with actual problems from business.

CONTENTS—PRINCIPLES OF BUSINESS COMMUNICATION. Goals of Business Writing. Styled to the Reader's Taste. Writing for Easy Reading. Writing Correctly. TECHNIQUES OF BUSINESS LETTERS. Basic Qualities of Business Letters. Fundamental Forms of Business Letters. Mechanics of Business Letters. SPECIFIC TYPES OF BUSINESS LETTERS. Inquiries, Answers to Inquiries, Orders. Claim and Adjustment Letters. Credit Letters. Collection Letters. Sales Letters. The Application Letter. THE REPORT AND MEMORANDUM. The Technique of the Report. Writing the Report. Writing the Memorandum. SELF-DEVELOPMENT OF THE JOB. Dictation. Special Problems and Skills for the Writer. Reading. PROJECTS SECTION. REFERENCE SECTION. Parts of Speech. The Sentence. Punctuation. Mechanics. INDEX.

STEWART, HUTCHINSON, LANHAM, AND ZIMMER—Business English and Communication

By MARIE M. STEWART, Stonington High School, Stonington, Connecticut, E. LILLIAN HUTCHINSON, FRANK W. LANHAM, University of Michigan, Ann Arbor, Michigan, and KENNETH ZIMMER, Los Angeles State College. Second Edition.

578 *pp.*, 5⅝ *x* 8⅜ (1961).....$5.20*b*

Workbook $2.16*b*

Objective Tests.....$.96*b*

Lively text for a complete course in English and communications. Emphasis on "total communication skill"—speaking, writing, listening, and reading. Trains students to meet office standards.

CONTENTS—Part I. The Art of Communicating in Business. Communication in Everyday Life. Oral Communication in Business. Written Communication in Business. Part II. Words at Work. Vocabulary and Business Communication. How Vocabulary Affects Communication. Our Changing Vocabulary. Steps in Vocabulary Improvement—The Dictionary. Steps in Vocabulary Improvement—Achieving Variety. Steps in Vocabulary Improvement—Pronunciation. Spelling and Word Usage. Spelling and Vocabulary. Spelling and Vocabulary (continued). Pitfalls in Word Usage. Part III. Speech as a Communication Art. Setting the Stage. Personality and Your Voice. Making Yourself Understood. Part IV. Grammar Review. The Sentence, Verbs, Nouns. The Sentence. Verbs. Verbs (continued). Nouns—Plurals. Nouns—Possessive Case. Pronouns and Predicate Agreement. Pronouns—Nominative and Objective Case. Pronouns—Case (continued). Pronouns—Who, Whom. Predicate Agreement—with Simple Subject. Predicate Agreement—with Simple Subject (continued). Predicate Agreement—with Compound Subject. Other Parts of Speech. Adjectives. Adverbs. Prepositions. Conjunctions. Part V. Review of Punctuation, Abbreviations, and Figures. Punctuation—Full and Partial "Stop" Signs. The Period. The Question Mark and the Exclamation Point. The Semicolon, Colon, and Dash. Punctuation—The Comma. The Comma. The Comma (continued). The Comma (concluded). Punctuation and Capitalization—Signals. Quotation Marks. Parentheses and the Apostrophe. Capitalization. Capitalization (continued). Signals—Abbreviations and Figures. Abbreviations. Figures. Figures (continued). Additional Abbreviations and Figures. Part VI. Hallmarks of Effective Letters. Making Business Letters Effective. Qualities of Effective Letters. Parts of the Business Letter. Style of the Business Letter. Choosing Effective Words. Everyday Business Letters. Letters That Ask and Transmit. Letters That Answer—Acknowledgments. Letters That Answer—Responses. The Secretary's Responsibility for Correspondence. Letters for Problem Situations. Psychology Applied to Problem Situations. Claim and Adjustment Letters. Credit and Collection Letters. Letters for Problem Situations. Letters That Sell. The Psychology of Sales Letters. Writing Effective Sales Letters. Public Relations Letters. Using Writing Skills to Get a Job. Writing Employment Letters. Other Business Communications. Social-Business Correspondence. Writing Memorandums. Writing Business Reports. Telegrams, Minutes, and News Releases. Part VII. Speaking for Business. The Art of Conversation. Meeting the Public—in Person and by Telephone. Working with Groups. Giving a Talk. The Employment Interview—Communication at Work.

STEWART, LANHAM, AND ZIMMER—College English and Communication

By MARIE STEWART; FRANK W. LANHAM, University of Michigan; and KENNETH ZIMMER, Los Angeles State College.

In Press

Covers in depth the three basic communication skills—writing, speaking, and listening. Provides a special section on writing craftsmanship which will have special appeal to composition-minded English teachers.

WEST—300 Commas

By LEONARD J. WEST, Southern Illinois University.

In Press

This is a programmed soft cover book that has been written for students, secretaries, office workers, and anyone whose work requires skill in the use of the comma. Suitable to supplement courses in English, letter writing, secretarial practice, and clerical practice.

ZETLER AND CROUCH—Successful Communication in Science and Industry—Writing, Reading, and Speaking

By ROBERT L. ZETLER, University of South Florida, Westinghouse Electric Corporation; and W. GEORGE CROUCH, University of Pittsburgh.

290 *pp.*, 6 *x* 9 (1961).....$7.95*t*†

† *Textbook edition available at educational list price.*

This lively book helps the student, scientist, or businessman write, read, and speak more effectively. It is keyed to the special problems of science and industry and draws upon these fields for practical problems, examples, questions, and discussion topics. All of the exercise material is timely, reflecting the actual communication problems of modern science and industry.

CONTENTS—TECHNICAL WRITING. The Logical Organization of Ideas. Types of Technical Exposition. Letters and Reports. Writing Correctly. READING TECHNIQUES. Reading Technical Material. Number Recognition. Word Recognition. Understanding Word Meaning. Reading Words in Groups. The Organization of Written Material. Critical Reading. Comprehension of Central Ideas. Methods of Skimming. SPEAKING TECHNIQUES. Speaking Situations. The Introduction of the Speech. The Body of the Speech. The End of the Speech. Methods of Presentation.

Business Letters

BENDER—Make Your Business Letters Make Friends

By JAMES F. BENDER, Adelphi College, Garden City, L.I., N.Y.

300 *pp.*, 5½ *x* 8 (1952).....$4.95*t*

A practical book on business letters as ambassadors of good will. Dr. Bender shows how to improve the force and clarity of commercial correspondence. Here is how to measure letterwriting ability; how to develop an individual style; how to avoid wasteful words, poor organization, and trite expressions; how to dictate efficiently; and how to write dynamic letters that really sell.

BUCKLEY—How to Increase Sales with Letters

By EARLE BUCKLEY, The Buckley Organization.

182 *pp.*, 5⅜ *x* 8, 22 *illus.* (1961)..$5.95*t*

Describes and illustrates the various ways a good letter can help you increase sales. A down-to-earth guide to practical letter writing, it deals specifically with letters for getting appointments, letters for getting leads, letters for following up contacts, and letters for preselling, as well as with the more familiar type of sales letter. Numerous examples are included, based on the experience of IBM, Remington Rand, and other large corporations.

CONTENTS—Anatomy of a Sale. Anatomy of a Prospect. Anatomy of a Letter. Using Letters to Get Appointments. Using Letters to Get Leads. Using Letters for Follow-up. Using Letters for Preselling. Factors That Influence Results. The Story on Lists. Importance of the Right Offer. Selecting the Right "Vehicle." Let's Talk about Copy. Who Reads Direct Mail? Case Histories—with a Grain of Salt. On Answering Inquiries. Special Opportunities for Letters. Answers to Frequently Asked Questions. The Priceless Ingredient.

BUCKLEY—How to Write Better Business Letters

By EARLE A. BUCKLEY, The Buckley Organization. Fourth Edition.

280 *pp.*, 5⅜ *x* 8, *illus.* (1957).....$6.50*t*

Explains the principles involved and the procedures to follow in preparing and dictating effective business letters. Analyzes sales, inquiry, complaint and collection, application, routine—practically every kind of letter. Shows right and wrong ways of putting a letter together and outlines principles used by the country's foremost letter writers and correspondents. Actual examples of letters help to show how to write the opening, body, and close of a letter; how to make a letter productive; and how to dictate.

CONTENTS—Analysis. The Formula for Sales Letters. Writing the Opening. Writing the Body. Writing the Close. How to Make a Letter Productive. Letter Problems. Pointers on Letters to Different Kinds of Prospects. Pointers on Specific Types of Letters. Answers to Letter Questions. On Testing. Letter Don'ts. Illustrated Letters. Letter Uses. Dictated Letters. Index.

EGNER—Letters for Special Occasions

Compiled and edited by FRANK EGNER, formerly McGraw-Hill Book Company.

160 *pp.*, 5⅜ *x* 8 (1957).....$4.25*t*

A book to help you write more, and better, special-occasion letters—the personal notes that can do so much to win friends and good will for you. Gives a compilation of scores of such letters written for a variety of social and occasional purposes, to show you both when and how they may be written. Of special interest to the businessman is the emphasis on the importance of special-occasion letters as powerful public relations media and on the staff memorandum as an internal morale builder.

SHURTER—Effective Letters in Business

By ROBERT L. SHURTER, Case Institute of Technology. *Pub. in Bus. Educ.* Second Edition.

250 *pp.*, 5½ *x* 8 (1954).....$6.25*t*†
*McG-H Paperbacks Ed.**

Presents the fundamentals of letter writing. The emphasis is upon the point of view from which letters are written and the application of this principle to the major types of letters. Letters of collection, adjustment, credit, and application are included. The text is amply illustrated by examples of effective letters.

CONTENTS—Preface. What Is an Effective Letter? The Form of the Letter. Business Jargon. Making Letters Easy to Read. Inquiries. Answers to Inquiries. Orders. Claim and Adjustment Letters. Credit Letters. Collection Letters. Sales Letters. The Application Letter. Index.

* *Available only through your local bookstore.*

Business Reports

ANDERSON, SAUNDERS, AND WEEKS—Business Reports

By C. R. ANDERSON, University of Illinois, ALTA G. SAUNDERS; and FRANCIS W. WEEKS, University of Illinois. Third Edition.

350 *pp.*, 6 *x* 9, 23 *illus.* (1957).....$6.95*c*

Here the authors develop, throughout, one general basic plan that underlies all types of reports. They cover the techniques of both investigation and presentation—from the origin of the commission, through planning, collecting data, organizing, and presenting the final report.

CONTENTS—Preface. Report Writing in Business. How to Think about Business Reports. Mechanics for Typed Work. Day-to-day Reports (Continued). Report Language. What Makes a Report Readable. What to Do with Figures. Getting the Investigation Started. Collecting Data. Organizing and Interpreting Data. Outlining the Final Report. Writing the Elements of the Report (Cover through Letter of Approval). Writing the Elements of the Report (Continued) (Introduction). Writing the Elements of the Report (Concluded) (Discussion through Index). Appendix I: Example of Student Report. Appendix II: Reporting Writing Problems.

Technical Reports

GENSLER AND GENSLER—Writing Guide for Chemists

Practical Suggestions for Preparing Reports, Dissertations, Articles

By WALTER J. GENSLER, Boston University, and KINERETH D. GENSLER.

† *Textbook edition available at educational list price.*

149 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.50*c*
Soft-Cover Ed. $2.95*c*

A practical guidebook succinct and example-crammed, designed to aid any chemist—academic, industrial, or governmental—who is writing a report, dissertation, or journal article. It strikes a balance between organization of material, mechanics of language usage, and useful reference information—chemical nomenclature, documentation practice, data presentation, and journal abbreviations. The format is that of a handbook, logically arranged and rich in examples, many of them given in easy-to-read tabular form.

CONTENTS—Introduction. GENERAL ASPECTS. Style in Technical Writing. The Laboratory Notebook. The Written Outline. Writing the Report. Presenting Experimental Details. Revision, Proofreading and Hints on Mechanics. SPECIFIC ASPECTS. Inappropriate Expressions in Formal Writing. Ambiguous Grammatical Relationships. Punctuation and Italics. Spelling and Capitalization. Chemical Nomenclature. Abbreviations and Symbols. Forms for Physical Data. Tables, Figures, Structural Formulas. Documentation.

HICKS—Writing for Engineering and Science
By TYLER G. HICKS, The Cooper Union School of Engineering.
472 *pp.*, 6¾ *x* 9¼, 261 *illus.* (1961)..$7.50*c*

A practical guide to basic understanding of the methods of effective technical writing—for engineering, science, and technical-writing students, practicing engineers, scientists, and writers. The book covers all the important tasks met by today's engineers, scientists, and technical writers, including technical and scientific reports, technical and scientific articles and papers, military manuals, specifications, etc. The skills and duties of engineering and technical writers are comprehensively analyzed, and important techniques are summarized in easy-to-use checklist form. To aid the student there are numerous examples of effective technical and scientific writing plus realistic writing assignments.

CONTENTS—Preface. Technical Writing and You. Communicating with Words. Grammar and Usage. The Language of Publishers and Printers. Illustrations and Tables. Engineering and Scientific Reports. Technical and Scientific Articles. How to Use Published Articles. Technical and Scientific Papers. Effective Presentation of Technical Papers. Instruction Manuals and Bulletins. Military Manuals. Writing Engineering and Industrial Specifications. Technical Sales and News Writing. Manuscript Preparation. BIBLIOGRAPHY. EXERCISES.

MENZEL, JONES, AND BOYD—Writing a Technical Paper
By DONALD H. MENZEL, HOWARD MUMFORD JONES, Harvard University, and LYLE G. BOYD, Smithsonian Astrophysical Observatory.
(1961) $3.25*c*
*McG-H Paperbacks Ed.**

This book will be useful to any investigator who must prepare a written account of his work, in any aspect of science or technology. It emphasizes the need for clear communication of ideas in scientific and technical papers—stresses the general principles involved in the exact expression of ideas—gives specific explanations of how these principles can be applied—describes the problems most common in technical exposition—and presents detailed advice on how these problems can be solved.

CONTENTS—The Evolution of a Paper. Revision. Presenting the Data. Grammar. Style. Jargon. The Physical Manuscript. APPENDIX.

* *Available only through your local bookstore.*

NELSON—Writing the Technical Report
By J. RALEIGH NELSON, University of Michigan. Third Edition.
350 *pp.*, 6 *x* 9, 238 *illus.* (1925).....$6.50*c*

Seeks to develop right attitudes and judgments, to suggest a method of approach to the task of writing a report, to emphasize the need for developing a method of production that will give satisfactory results with a minimum of effort, and to establish critical standards that the student may apply to his own work as a measure of its effectiveness.

CONTENTS—Part I. THE DESIGN OF THE REPORT Definitions. Procedures. Tests of Progress. Ways to Help the Reader. Functions of the Introduction. The Important First Focus of Attention. Some Special Problems in Introduction to Reports. The Paragraph as an Evidence of Design. The Relation of the Paragraph to the Plan. Coherence within the Paragraph System. Sectional Headings as Evidence of Design. Special Types of Paragraph. The Terminal Section. The Rough Draft. Tests of Successful Performance. The Short-form Report. The English of the Report. Part II. SOME SUGGESTIONS AS TO THE FORM AND STYLE OF THE REPORT. Stenographic Details. Styling the Report. Format. Figures. Tables. Annotated Reports. Part III. THE CRITICISM OF THE REPORT. Finding the Point of Attack. A Study of Introductions. Studies in Reorganization. Studies in Coherence. Part IV. SUMMARY OF BASIC PRINCIPLES. Prerequisites of a Report. Functions of a Report. Procedure in Writing a Report. Part V. MANUAL FOR CLASS USE. For the Instructor. For the Student. The Reminder Card. In Retrospect. Index.

RHODES—Technical Report Writing
By FRED H. RHODES, Emeritus, Cornell University. Second Edition.
175 *pp.*, 5⅝ *x* 8⅜, 2 *illus.* (1961)....$5.50*c*

A convenient guide to technical report writing, this book covers the organization, form, and style of both written and oral reports. It applies some of the simpler principles of statistics to the analysis and interpretation of experimental data. Although no attempt is made to include a complete discussion of the science of statistics, many of the applications that commonly arise in interpreting experimental data are considered. The second edition has been thoroughly rewritten and updated: chapters on style comply to current usage, discussions of the applications of statistical methods have been completely rewritten and considerably expanded, and a new chapter on the analysis of correlation and of variance has been added.

CONTENTS—Preface. The Importance of Effective Presentation in Technical Reports. The Characteristics of a Good Report. The Organization and Form of a Technical Report. The Style of the Report. The Oral Presentation of Technical Reports. The Laboratory Notebook. Reports as Evidence in Patent Actions. The Graphical Presentation of Data. The Precision of Results. Analysis of Correlation and of Variance. Appendix A. Calculation of Correlation Coefficient. B. Derivation of Equation for Calculating Correlation Coefficient. C. Proof That Sums of Squares Are Additive. INDEX.

Speech

McGRAW-HILL SERIES IN SPEECH
(Series in Speech)

Clarence T. Simon, Consulting Editor
Professor of the Psychology of Speech, School of Speech, Northwestern University

Armstrong and Brandes—The Oral Interpretation of Literature
Bacon and Breen—Literature as Experience
Baird—American Public Addresses
Baird—Argumentation, Discussion, and Debate
Baird and Knower—Essentials of General Speech
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Kruger—Modern Debate
Loney—Briefing and Conference Techniques
Ogilvie—Speech in the Elementary School
Powers—Fundamentals of Speech
Van Dusen—Training the Voice for Speech

General and Introductory

BAIRD AND KNOWER—General Speech

By CRAIG BAIRD, State University of Iowa; and FRANKLIN H. KNOWER, The Ohio State University. *Series in Speech.* Third Edition.
464 *pp.*, 6 *x* 9, *illus.* (1963).....$5.95*c*
Correlated Textfilm Series—3 motion pictures (B&W).....$320.00

This introductory book provides a comprehensive treatment of the fundamentals of speech. Seven fundamentals of speech form the core of the book: the speaker, as communicator; his ideas in communication; the structure of his communication; his oral language; voice; articulation; his physical activity in the communicative act. Each fundamental is systematically explained, illustrated and applied. Revisions include: increased emphasis on communication as a medium; section on audiovisual aids strengthened; illustrative material increased; suggestions for teachers, recent speeches, new research and new examples added; more information on speech principles, emphasized by concrete illustrations.

CONTENTS—INTRODUCTION. Essentials of Effective Speech. Improving Your Speech Habits. DEVELOPING FUNDAMENTAL PROCESSES. Choosing Your Subject and Purpose. Finding Materials. Organization and Outlining. Supporting Details. Adapting to the Audience and the Occasion. Developing Confidence. Using Effective Language. Semantics. The Speaking Voice. Articulation and Pronunciation. Physical Activity and Visual Aids. The Speaker's Personality. Informational and Critical Listening. BASIC SPEECH TYPES. Informative Speaking. Argumentative Speaking. Persuasive Speaking. Discussional Speaking. Oral Reading. SPECIAL SPEECH TYPES. Radio and TV Speaking. Speeches for Special Occasions. Parliamentary Procedure. APPENDIXES: Main Symbols of the Phonetic Alphabet for English. Speech Performance Scale. Some Examples of Special Speech Types. Suggestions to Teachers.

BAIRD AND KNOWER—Essentials of General Speech

By A. CRAIG BAIRD, State University of Iowa and FRANKLIN H. KNOWER, The Ohio State University. *Series in Speech.* Second Edition.
242 *pp.*, 6 *x* 9 (1960).....$4.75*c*

Now in its second edition, this book serves those courses in which a minimum of textbook study is assigned and those courses in communication skills in which training in speech and in writing are combined or closely integrated. Emphasis is on speech fundamentals rather than on public speaking. The aim is not primarily to produce superior public speakers, but to develop oral communication as an agency in all normal social relations. Speech fundamentals emphasized are the speaker; the speech with its ideas, organization, language; the communicative act itself; the audience; the speaking situation. The revision is aimed at condensation of style and space without sacrificing essential content. It includes main symbols of the phonetic alphabet, as well as the speech performance scale.

CONTENTS—PART I: YOU AND SPEECH. Essentials of Effective Speech. Beginners' Problems in Speech Improvement. PART II: THE SPEECH. Choosing Your Subject, Purpose, and Materials. Organizing and Outlining. Supporting Details. Using Effective Language. PART III: THE AUDIENCE. Adapting to the Audience and the Occasion. Listening. PART IV: THE SPEAKER. Developing Confidence. The Speaking Voice. Articulation and Pronunciation. Bodily Action and Visual Aids. PART V: OCCASIONS AND TYPES OF SPEECHES. Informative Speaking. Argumentative Speaking. Persuasive Speaking. Discussional Speaking. Oral Reading. Speeches for Entertainment and Special Occasions. APPENDIXES. Main Symbols of the Phonetic Alphabet, for English. Illustrative Speeches. Selected References.

BLACK AND MOORE—Speech: Code, Meaning, and Communication

By JOHN W. BLACK, Ohio State University, and WILBUR E. MOORE, Central Michigan College. *Series in Speech.*
430 *pp.*, 6 *x* 9, *illus.* (1955).....$5.95*c*

Presents the basic processes of speaking and treatments of the common applications of speaking. Factual materials are considered in a context of classroom performance. Developments in general semantics, information theory and probability, stress upon the concept of *intelligibility*, and accounting for *individual differences* are synthesized and applied to the subject of general speech. There are copious projects for practice included to stimulate discussion: projects amplifying the text, applying the text, and arguing with the text. The later chapters treat classroom applications of speech.

CONTENTS—An Overview. The Mechanism of Speech. The Sound of Speech. The Acoustic Code of Speech. The Vocabulary of Speech. The Speaker's Meanings: Speech and Evaluation. The Speaker's Meanings: Testing Validity. The Organization of Speech. The Motion of Speech. Style in Speech. The Speaker's Gestures and Bearing. Interpretive Speech. Interpretive Reading. Public Address. Group Discussion. Microphone Speech. Appendix: Speeches for Study. Intelligibility Tests.

POWERS—Fundamentals of Speech

By DAVID G. POWERS, Queens College. *Series in Speech.*
380 *pp.*, 6 *x* 9, 42 *illus.* (1951).....$5.75*c*

Combines fundamentals with public speaking techniques. The twofold purpose of the course is to develop essential skills through directed practice in a variety of practical speech situations and to furnish the basic knowledge necessary for intelligent speech improvement.

CONTENTS—Preface. Foreword to Students. SOCIAL SKILL. Communication. The Speech Situation. Personal Factors in the Speech Situation. SEMANTIC SKILL. The Problem of Meaning. Understanding Semantics. How to Develop Semantic Skill. VOCAL SKILL. Study and

Practice of Vocal Characteristics. Your Voice and Its Emotional Effect. Variety: A Combination of Vocal Skills. Vocal Heckling Session. PHONETIC SKILL. How to Make the Consonants. How to Make the Vowels. How to Make the Diphthongs. Study of Pronunciation. PUBLIC SPEAKING. How to Prepare a Speech. Informative Situations. Fellowship Situations. Persuasive Situations. Deliberative Situations. CONFERENCE SPEAKING. Group Discussion. Parliamentary Procedure. Debate. SPEECH ARTS. Oral Interpretation of Literature. Dramatic Reading. Conversation. Radio and Television Speaking. Visual-aids. Bibliography. Index.

BAIRD—American Public Addresses: 1740–1952

By A. CRAIG BAIRD, State University of Iowa. *Series in Speech.*

301 *pp.*, 6 x 9 (1956)..*Cloth Edition* $5.95*c*
Soft-cover Edition $3.95*c*

This collection of outstanding American addresses of the past two centuries is valuable for its historical-social character, its expression of American opinion and temperament, and its demonstration of compositional and public speaking methods. Each speech is prefaced by a brief introduction giving some idea of the speaker and the speech, the audience, and immediate and long-range impact on history. It includes speeches of Senators, Presidents, ministers, lecturers, and industrial spokesmen.

CONTENTS—Preface. Introduction. Jonathan Edwards. Patrick Henry. James Madison. Daniel Webster. John C. Calhoun. Henry Clay. Stephen A. Douglas. Abraham Lincoln. William Lowndes Yancey. Ralph Waldo Emerson. Wendell Phillips. Henry Ward Beecher. Robert Green Ingersoll. Henry W. Grady. Booker T. Washington. William Jennings Bryan. Albert Jeremiah Beveridge. Theodore Roosevelt. Woodrow Wilson. Robert M. La Follette. Samuel Gompers. William E. Borah. Franklin Delano Roosevelt. Harry Emerson Fosdick. Dwight D. Eisenhower. Adlai Stevenson. Index.

Anatomy and Physiology

KAPLAN—Anatomy and Physiology of Speech

By HAROLD M. KAPLAN, Southern Illinois University. *Series in Speech.*

365 *pp.*, 6 x 9 (1960).....$8.95*c*

Designed for juniors and seniors majoring in speech pathology and for graduate students, this book is a basic theoretical text describing the structure and function of the vocal mechanism. The author treats the subject from the viewpoint of the professional physiologist. He attempts to unify the presently known and more important anatomical and physiological data into an orderly account of the normal sensory and motor aspects of speech. Emphasis is on theory, rather than applications. Special topics not treated elsewhere include: the regulation of speech by nervous and humoral agencies, the historical ideas of laryngeal functions, and organic evolution.

CONTENTS—A Survey of the Speech Mechanism. Nervous Regulation of Speech. Autonomic and Endocrine Regulators of Speech. Anatomical Concepts and Bodily Organization. The Respiratory System in Speech. The Structure for Phonation. Laryngeal Control and Blood Supply: The Trachea. Applied Anatomy and Physiology of the Larynx. The Velopharyngeal Mechanism: The Palate. The Velopharyngeal Mechanism: The Pharynx. The Nose and Sinuses. The Structures for Articulation. The Ear as a Sound Receptor. GLOSSARY. BIBLIOGRAPHY. INDEX.

Interpretive Speech

ARMSTRONG AND BRANDES—The Oral Interpretation of Literature

By CHLOE ARMSTRONG, Baylor Univ.; and PAUL D. BRANDES, Ohio Univ. *Series in Speech.*

384 *pp.*, 6 x 9, *illus.* (1963).....$5.95*c*

Helps students develop their ability to read and to appreciate reading aloud. Also helps the student experience literature more fully; so that he can solve his literary problems easily and satisfactorily. Emphasis is on teaching the student how to interpret a piece of literature orally. Selections are included, but only in an integrated manner. Included are Robert Frost, Robert Browning, James Michener, Matthew Arnold, and Eudora Welty. Contains suggestions on selecting material for oral interpretation; cutting a selection to make it fit within proper time limits; introducing a selection so that the audience is adequately prepared for it; and reading scientific papers, such as the professional paper and the term paper.

CONTENTS—How Does Oral Reading Affect Human Behavior? How Can the Oral Reader Prepare Himself to Modify Audience Behavior? How Can the Changes in Human Behavior Produced by Oral Reading Be Evaluated? How Can the Oral Reader Prepare Himself to Modify Audience Behavior Using Specific Literary Types as Stimuli? Appendix.

Argumentation, Discussion, and Debate

BAIRD—Argumentation, Discussion, and Debate

By A. CRAIG BAIRD, State University of Iowa. *Series in Speech.*

422 *pp.*, 6 x 9, *illus.* (1950).....$6.50*c*

This text interprets for the student well-established argumentative principles as affected by the current contributions of logic, philosophy, psychology, speech, political science, and related subjects. Special techniques of discussion are explained, such as the use of the logical pattern, the role of leadership, the round table, committee discussions and hearings, panels, conferences, symposiums, forums, and other types.

CONTENTS—Part I. Approach to Argumentation, Discussion, and Debate. Aims, Relationships, Applications. Part II: Principles and Techniques. Subjects, Propositions, and Questions. Research Techniques. Reflective Thinking and Argumentative Types: Preliminary Survey. Definition. Analysis and Issues. Organization: The Outline and the Brief. Evidence: Principles and Types. Evidence: Techniques and Tests. Argument: Generalization. Argument: Analogy. Argument: Casual Reasoning: Authority. Argument Deduction. Obstacles to Straight Thinking. Argumentative Composition: Divisions of Discourse. Argumentative Composition: Language. Persuasion: Techniques of Motivation. Delivery. Part III. Discussion. Discussion: Aims, Relationships, Techniques. Discussion: Patterns and Outlines. Discussion: Special Types. Discussion: Leadership. Participation, Evaluation. Part IV: Debate. Debate: Principles and Techniques. Debate: Refutation and Rebuttal. Debates: Special Types. Judging Debaters and Debates. Appendixes: A. Specimen Brief Federal World Government. B. Suggested Library Sources for Readings in Current Problems. C. Outline of Parliamentary Law. D. Supplementary Readings. Index.

KRUGER—Modern Debate
Its Logic and Strategy

By ARTHUR N. KRUGER, Wilkes College. *Series in Speech.*

448 *pp.*, 6 x 9, *illus.* (1960).....$6.95*c*

Designed for courses in argumentation and debate, this text departs from the classic treatment of the subject in featuring a newer, more functional approach, with a wealth of examples from the national debate questions of the past ten years. Almost every theory is supported by actual "real life" examples. Many new approaches to debating, particularly academic debating, have been taken. Most significant is the comprehensive treatment of the underlying

logic of debating and the application of logical principles to debating.

CONTENTS—Preface. INTRODUCTION. First Principles. ANALYSIS AND DEVELOPMENT. The Debate Proposition. Interpreting and Defining the Terms of the Proposition. Analysis: Is There a Need for Changing the Status Quo? Analysis: Would the Affirmative Plan Meet the Need? Gathering Information and Evidence. Over-all Strategy: Organizing Individual Speeches. ATTACK AND DEFENSE. The Logic and Strategy of Attack and Defense. Some Basic Definitions. Evidence. Descriptive Hypothesis and Descriptive Generalization. Causal Hypothesis and Causal Generalization. Analogical Hypothesis. Material Irrelevancies. Deductive Reasoning. The Indirect Attack. Organizing the Answer to an Argument. PRESENTATION. Language. Delivery. THE CASE IN ACTION. A Sample Debate. Anatomy of a Debate. SPECIAL PROBLEMS. Judging Debate. Directing a Forensic Program. Cross-examination Debate. Other Debate Forms. Persuasive Speaking Contests. Discussion. Selected Bibliography. Index.

Parliamentary Procedure

STURGIS—Sturgis Standard Code of Parliamentary Procedure

By ALICE F. STURGIS. Foreword by Harold H. Burton, Associate Justice of Supreme Court of the United States.

280 *pp.*, 4¾ *x* 7 (1950).....$5.95*l*

A handbook of parliamentary procedure that is completely modern, comprehensive, authoritative, and easy to use. In the most simple and logical manner it presents all the rules of modern parliamentary law for all organizations, clubs, civic groups, and governing bodies. The first part of the book discusses principles of procedure and general rules: order of business, presentation and precedence of motions, methods, and procedure of voting. Part II explains how to set up a new organization, how to write its constitution, by-laws, and standing rules, the duties of officers and committees, the rights of members. Part III is a detailed reference guide to motions.

STURGIS—Your Farm Bureau

By ALICE F. STURGIS.

233 *pp.*, 6 *x* 9, 53 *illus.* (1958).....$3.50*r*

A manual of Farm Bureau fundamentals and methods, showing how the organization has grown, and how its members may act to develop as members and leaders, and further the progress of the Bureau and its objectives. Covers such topics as how to reach majority decisions; how to hold successful meetings; duties and responsibilities of officers, directors, and delegates; how to plan effective programs, how to develop policies, and put them into action; and how to protect the rights of individuals, and how they may develop into responsible leaders.

Speech and Voice Training

CARRELL AND TIFFANY—Phonetics

Theory and Application to Speech Improvement

By JAMES A. CARRELL and WILLIAM R. TIFFANY, University of Washington. *Series in Speech.*

361 *pp.*, 8⅞ *x* 5¾, *illus.* (1960)....$7.95*c*

This text is designed for the beginning student in speech to enable him to become sufficiently expert in observing the patterns of American speech, in himself and in others, so that he may expect to make some progress toward the goal of eliminating substandard and undesirable habits from his own speech and so that he may acquire an important body of knowledge in an important area of human behavior. Standard phonetic organization is followed while much new thinking in scientific phonetics is applied. Many phonetic transcriptions are included for practice material and as a key source for ear training.

CONTENTS—Phonetics and Speech Improvement. General Considerations: Syllables, Phonemes, the Alphabet of the International Phonetic Association, and the Types of Speech Sounds. The Process of Speaking. Studying the Sounds of Speech. The Front Vowels. The Back Vowels. The Central Vowels. The Diphthongs. The Stops and Affricates. The Fricatives. The Glides, Nasals, and Lateral. The Dynamics of Sounds in Context. The Acoustic Variables of Speech: Pitch, Quality, Loudness, and Duration. Speech Improvement. APPENDIX.

HAHN, LOMAS, HARGIS, AND VANDRAEGEN—Basic Voice Training for Speech

By ELISE HAHN, CHARLES W. LOMAS, DONALD E. HARGIS, and DANIEL VANDRAEGEN, University of California, Los Angeles. *McGraw-Hill Series in Speech.* Second Edition.

250 *pp.*, 6 *x* 9, 29 *illus.* (1957).....$5.75*c*

This text in voice training integrates a moderate body of content drawn from voice science with usable drill material for voice improvement through development of the student's critical listening, understanding of the personality factors which influence his vocal habits, knowledge of the function of his vocal mechanism, and practice for good voice production.

CONTENTS—Preface. PART I. Critical Listening and Self-analysis. PART II. Why You Speak as You Do. PART III. How Sound Is Produced in Speech. PART IV. Breathing for Speech. PART V. Tone Production. PART VI. The Resonating Process. PART VII. The Integration of Vocal Skills. PART VIII. Articulation Standards. PART IX. The Vowel Sounds in Speech. PART X. The Consonant Sounds in Speech. PART XI. What Next? APPENDIX I. Recording Devices. APPENDIX II. Selections for Practice. Index.

TAYLOR AND MARKS—Aphasia Rehabilitation Manual and Therapy Kit

By MARTHA L. TAYLOR, B.S., M.A., Chief, Speech and Hearing Therapy, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center; and MORTON M. MARKS, M.D., Consulting Neurologist and Director of Neurologic Research, Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center.

24 *pp.*, 8½ *x* 11 *manual, plus* 100 *picture and work cards, complete kit* (1959).$10.95*c*

Based on the authors' practical experience with aphasics in one of the largest rehabilitation centers, the manual on which this kit is based was originally published in 1955 as a workbook by the Institute of Physical Medicine and Rehabilitation of the New York University-Bellevue Medical Center and has been widely used. Now available in an expanded form, attractively boxed, with word cards, this work is a most useful tool for anyone beginning the rehabilitation of an aphasic patient. The APHASIA REHABILITATION MANUAL AND THERAPY KIT presents in a clear, practical fashion the latest concepts in aphasia rehabilitation. The kit is comprised of a 100 basic noun vocabulary for the patient beginning to learn speech, individual picture and word cards for each noun, and a manual of information and directions. The manual contains fully illustrated directions for treatment, general directions for therapy, basic information about aphasia rehabilitation, and a checklist of Do's and Don'ts. This checklist will prove of particular importance to the untrained person who might be responsible for the rehabilitation of the aphasic patient.

CONTENTS—Introduction. Basic Information for the Family and Friends. Important Instructions for Untrained Therapists. Directions for the 10 Steps of Aphasia Therapy. Checklist of Do's and Don'ts Checklist of Basic Information. The Basic 100 Words.

VAN DUSEN—Training the Voice for Speech
By C. RAYMOND VAN DUSEN, University of Miami. Second Edition.
276 *pp.*, 6 *x* 9, 27 *illus.* (1935).....$5.95*c*
Gives practical, understandable help to the student who desires to improve his speaking voice and his ability to express words clearly and distinctly. A chapter on "Suggestions to Teachers" recommends approaches and techniques for use of the text in class.
CONTENTS—Preface. Part I. INTRODUCTION. The Training Program. Basic Elements of Sound. Part II. CULTIVATING A GUIDE. Training the Ear. Part III. MECHANICS OF VOCALIZATION. Stimulating and Integrating Vocalization. Responding Mechanisms. Part IV. MAKING PHYSICAL PREPARATION FOR VOCAL ACTIVITY. Learning to Relax. Posture for Vocalization. Breathing for Vocalization. Practice and Application of Physical Controls. Part V. DEVELOPING BASIC ELEMENTS. Improving Vocalization. Improving the Pitch. Regulating Loudness. Improving Tonal Quality. Improving Flexibility of the Voice. Part VI. IMPROVING ARTICULATION. Moving the Mechanism. Articulating the Consonants and Vowels. Pronouncing the Words. Part VII. IMPROVING RATE OF UTTERANCE AND SPEECH RHYTHM. Improving Rate of Utterance. Improving Rhythm. Part VIII. SUMMARY AND APPLICATION FOR THE STUDENT. Working for Improved Vocalization. Careful Use of the Voice. Part IX. SUGGESTIONS TO TEACHERS. Suggestions to Teachers. Appendices. Index.

Practical and Business Speech

BENDER—How to Talk Well
By DR. JAMES F. BENDER, Adelphi College, Garden City, L.I., N.Y.
270 *pp.*, 5½ *x* 8, *illus.* (1949).....$5.50*tL*
Everyone can improve his speech. In this book Dr. Bender tells how to do it and how to have fun while learning to talk better. Here are helpful chapters on tuning up your voice, making articulation click, conquering pronunciation defects, getting the most out of your lungs, and being a creative listener. Each chapter contains exercises—more than one hundred altogether—employing tongue-twisters, hard to pronounce words, foreign words, quizzes, and other aids that make the learning of speech a pleasure.

HEGARTY—How to Write a Speech
By EDWARD J. HEGARTY.
226 *pp.*, 5½ *x* 8, 2 *charts* (1951)...$4.50*tL*
Mr. Hegarty's formula is so practical and his suggestions so clear and specific that he makes the writing of any speech an easy and enjoyable task.

HEGARTY—Showmanship in Public Speaking
By EDWARD J. HEGARTY.
300 *pp.*, 5½ *x* 8 (1952).....$4.50*tL*
Discusses the use of showmanship in various elements of a speech to hold and convince an audience. Mr. Hegarty outlines the tried and true mechanics of showmanship and provides sound advice for testing speech material, handling notes properly, using charts, properties, and printed matter effectively, and warming up a cold audience. Finally, there is a useful resume of the book for the person who has to make a speech in a hurry.

HOFFMAN—Public Speaking for Businessmen, 3rd Ed.
By WILLIAM G. HOFFMAN.
McG-H Paperbacks Ed. In Press
Every important principle and technique for public speaking for businessmen is included in this manual: how to organize your speech; what and how to memorize, or how to read a speech well; how to improve vocabulary, enunciation, voice; how to use gestures pointedly; how to conduct business meetings and handle conference and round-table discussion effectively.
CONTENTS—List of Speeches. The Right Approach. Choosing the Subject. Aiming at the Vital Wants. Fact Finding. Organizing the Speech. What and How to Memorize. Before the Audience. How to Read a Speech Well. Training the Speaker's Mind. How to Listen. The Psychology of Public Speaking. Improving Your Vocabulary. Enunciation and Pronunciation. The Speaking Voice. Conducting a Business Meeting. Conference and Round Table. Humor in Public Speaking. Common Types of Address. Radio Speaking. Index.

HOFFMAN—The Speaker's Notebook
By WILLIAM G. HOFFMAN.
320 *pp.*, 5½ *x* 8 (1943).....$6.95*iL*
Discusses methods of effective speaking and gives actual examples of outstanding speeches, stories, epigrams, and aphorisms which can be directly employed in planning any kind of speech. There are 232 stories alone, classified under headings and indexed for easy reference, which will supply illustrations for almost any point a speaker wishes to make.

LONEY—Briefing and Conference Techniques
By G. M. LONEY, University of Maryland. *McGraw-Hill Series in Speech.*
194 *pp.*, 6 *x* 9 (1959).....$6.50*t*†
A ready-reference for those who wish to become more effective in conference and presentation techniques. In this book the reader will find every essential thing he needs to know about preparing and delivering a speech; the fundamentals governing the use of audio-visual aids in a variety of speech situations; the essentials of written and oral briefing; and the principles governing successful group discussions and problem-solving conferences.
CONTENTS—Basic Communication. Audio-visual Aids for Speakers. Written and Oral Briefing Techniques. Conference Techniques.

PHILLIPS—Oral Communication in Business
By DAVID C. PHILLIPS, University of Connecticut.
229 *pp.*, 6 *x* 9, *illus.* (1955).....$5.50*c*
Based on the premise that the essence of effective oral communication is the individual's ability to say what he wants to say clearly and effectively in *all* speaking situations, this book will be of valuable assistance to *all* men in or preparing for business and industry. The first half of the book is devoted to the principles basic to all communication situations; the second half to specific problems related to such situations as conferences, interviews, meetings, sales, and radio and television presentations.
CONTENTS—Preface. A Point of View. Know Your Listeners. How to Organize Your Oral Communication. How to Make Oral Communication Interesting. How to Prove a Point. Sound Plus Sight. Your Physical and Vocal Delivery. Conference Procedure. Leading a Conference. The Sales Presentation. The Interview. Occasional Speeches. Speaking on Radio and Television. Conducting a Meeting. Index.

SANDFORD AND YEAGER—Effective Business Speech
By WILLIAM PHILLIPS SANDFORD, Saint Louis University; and WILLARD HAYES YEAGER, The Ohio State University. Fourth Edition of *Practical Business Speaking.*
445 *pp.*, 6 *x* 9, 11 *illus.* (1960).....$6.95*c*

† *Textbook edition available at educational list price.*

Covering all phases of business speech, whether conversation or talks to groups, this text deals with basic principles of effectiveness, applying them to business speeches, interviews, and conferences and discussions. It presents, by formula and outstanding examples, the requirements of public and semi-public *speeches* in the business world, in internal or external affairs of a firm. It applies basic principles of effectiveness to the *business interview*, both in the inner workings of an organization and in dealing with customers and the public, and treats the *business conference* in its various forms; and it concludes with a balanced treatment of *group discussion* as used in business and public life.

CONTENTS—Preface. PRINCIPLES OF BUSINESS SPEECH. Importance of Effective Speech in Business. How to Plan Effective Presentations. How to Be Effective Orally. How to Make Presentations Interesting. How to Adapt Presentations to Listeners. How to Select Subjects and Find Materials. How to Plan and Conduct Informal Meetings. How to Conduct Formal Meetings. TYPES OF BUSINESS TALKS. Speeches to Explain, Instruct and Report. Speeches to Build Good Will. Speeches to Win Approval of Policies. Speeches to Promote the Sale of Services and Products. Speeches to Inspire People and Organizations. Speeches to Praise People and Organizations. BUSINESS INTERVIEWS, CONFERENCES AND GROUP DISCUSSIONS. Following a Plan in Your Conversations. Informational Interviews. Persuasive Interviews: The Sales Presentation. Persuasive Interviews: Morale-building, Grievance or Complaint-adjusting, Employment, Policy Determination. Purposive Group Conversation: Business Conferences. Purposive Group Conversation: Discussions. Index.

SURLES AND STANBURY—The Art of Persuasive Talking

By LYNN SURLES, Lynn Surles & Associates, and WALTER A. STANBURY, JR., *Textile World*.
283 *pp.*, 5⅜ *x* 8, 17 *illus.* (1960)...$6.50*t*

A step-by-step guide to help people talk more effectively in everyday business situations. Using a person-to-person approach, the book illustrates how to interest people in ideas, how to make them remember what is said *and meant*, how to get action, how to make people *want* to do the things that are asked. It suggests solutions to problems of talking extemporaneously, preparing talks, debating issues, generating ideas, conducting business meetings and conferences, bringing agreement out of disagreement, and more. Practical examples illustrate every principle and technique.

CONTENTS—How to Get People Interested in Your Ideas. How to Talk Effectively When You Have No Time to Prepare. How to Get the Action You Want from People. How to Turn Disagreement to Agreement. How to Use the Power of Suggestion. How to Rationalize with People. How to Prepare a Successful Talk. How to Get Ideas to Talk About. How to Put Your Meaning Across. How to Argue Convincingly—and Prove Your Point. How to Wind Up Your Talk. How to Overcome Common Handicaps in Talking. How to Use Your Talking Skills to Improve the Meetings You Run. How to Overcome Common Obstacles to Running a Meeting. How to Read Reports and Papers Aloud Without Putting People to Sleep. How Good Listening Can Make You a Better Communicator. How to Handle 29 Common Talking Situations.

WHITING—How to Speak and Write with Humor

By PERCY H. WHITING.
256 *pp.*, 5⅜ *x* 8⅜ (1959).....$4.95*t*

Anyone can learn to speak and write with humor. In this first book devoted to the subject, the reader can discover sure ways, through "humorous devices," to develop humor for use in speeches, letters and conversation. Percy Whiting shows not only how to create witticisms but also how to deliver them—and in a way that will always produce laughs. Mr. Whiting, author of the best-selling *The 5 Great Rules of Selling*, is Managing Director of the Dale Carnegie Sales Courses.

Speech for Scientists and Engineers

WEISS AND McGRATH—Technically Speaking

Oral Communication for Engineers, Scientists, and Technical Personnel

By HAROLD WEISS and JAMES B. MCGRATH, JR., both of Southern Methodist University.
256 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$7.95*t*†

Designed for those engaged in scientific pursuits—engineering, medicine, or any field that might be labeled "technical," and whose formal training in oral communication has been limited by the pressure of the technical curriculum. The book offers the assistance needed to prepare effective and forceful speeches, give clear, accurate instructions, organize and deliver technical reports, acquire good listening skills, and converse lucidly about plans, opinions, and advice. Case studies and lively, practical assignments are specifically devised to meet the problems in speech that the technical man will face in his professional work and in his social community. All speech situations —conversations; interviews; speeches to inform, persuade, and sell; good-will speeches to the community; reading an oral report; listening; and chairing a meeting at a banquet—are covered. Theories are illustrated with concrete examples and all fundamental aspects of good speaking are discussed in a dynamic manner and supported by sound research.

CONTENTS—High Fidelity Needs a Good Loud Speaker (The Need for Better Oral Communication). Laying the Foundations (Preparing to Speak). Person to Person (Use of Body and Voice for a Direct Speaking Style). The Blueprint Takes Form (Support for Your Points). One Million Units of Raw Material (Language—The Structural Material of Speech). The Eyes Have It (Gaining Attention and Clarity Through Visual Aids). Firing on all Cylinders of the Brain (The Creative Speaker). Exploration and Excavation (Research for Oral Communication). The Twentieth Century Cracker Barrel (Conversation, Interview, Conference). Who, What, Where, When, and How (Informing the Listener). Control Board for Influence (Persuasion and Selling). Gavel and Gabble (Taking Charge of a Meeting). The Voltage Builds Up (Creating Good Will and Building Morale). Transmitter to Receiver (Listening to Others). Johnny Can't Read—Aloud (Reading a Paper).

SUCCESSFUL SPEAKERS LIBRARY $21.45*r*

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Radio and Television Broadcasting

McGRAW-HILL TELEVISION SERIES

(Series in TV)

Donald G. Fink, Consulting Editor
Director of Research, Philco Corporation, Philadelphia

Agnew and O'Brien—Television Advertising
Bretz—Techniques of Television Production
Chinn—Television Broadcasting
Deutsch—Theory and Design of Television Receivers
Dome—Television Principles
Fowler and Lippert—Television Fundamentals
Grob—Basic Television
Kiver—Color Television Fundamentals
Wentworth—Color Television Engineering

General and Introductory

ABBOT AND RIDER—Handbook of Broadcasting

The Fundamentals of Radio and Television By WALDO ABBOT, Broadcasting Stations WUOM, WFUM, University of Michigan, and RICHARD L. RIDER, International Cooperation Administration, Washington, D.C. Fourth Edition.

531 *pp.*, 6 *x* 9, 98 *illus.* (1957).....$9.95*t*†

For students in basic radio and TV courses and essentially a "How" book on the fundamentals of radio and television. It is not technical, although it contains enough technical information so that students may understand the medium and the equipment. It is extensively illustrated with 100 pictures to clarify the text.

CONTENTS—Fundamentals of Radio—Amplitude Modulation. Fundamentals of Radio—Very High Frequencies. Fundamentals of Television. Radio and Television Programming. Radio and Television Announcing. Radio and Television Speaking. Pronunciation. Articulation, Intonation, Rhythm. News Programs. Sports Programs. Unwritten Talk Programs. Preparing the Broadcast Address. Broadcasting in the Public Service. Music Programs. The Preparation of Children's Programs. Broadcasts to Schools. Writing the Radio and Television Play. Writing the Radio Serial. Directing the Radio Play and the Actor. Sound Effects. Directing the Television Play. The Television Actor. Television Production. Television Camera Directing. Tape and Disc Recording and Records. The Business of Radio and TV Advertising. Writing Commercial Continuity. The Law as It Affects Broadcasting. Radio and Television as Vocations. Glossary. Suggested Class Projects. Index.

Television

BRETZ—Techniques of Television Production

By RUDY BRETZ, University of California, Los Angeles. Second Edition.

528 *pp.*, 6 *x* 9, *illus.* (1962).....$10.75*c*

This is a source book of basic theory and information on the techniques which are used in production today for live or video-tape programming. It bridges the gap between the artistic demands of the producer and the technical requirements of the engineer. As a reference book on basic equipment, operating methods and production practices, it belongs on the desk of the working director, producer or production manager. As a text in advanced courses in TV production it is complete, definitive, and authoritative.

CONTENTS—Preface. Introduction. Television Cameraman. Television Cameras. Camera Handling. Television Lenses. Television Cutting. Television Switching Equipment. Technical Limitations and Production Problems Involved. Graphic Materials. Projection Equipment. Mirrors and Prisms. Composite Shots and the Illusion of Space. Special Effects with Graphic Materials. Studio Effects. Electronic Effects. Television Scenery. Television Make-up. Television Lighting. Television Audio. Remote Pickups. Color. Intercom and Cueing. Kinescope Recording. INDEX.

LEWIS—Educational Television Guidebook

By PHILIP LEWIS, Chicago Board of Education.

238 *pp.*, 6 *x* 9, 98 *illus.* (1961)....$6.75*t*†

Prepared under the auspices of the Electronic Industries Association, this book is an authoritative, comprehensive treatment of broadcast and closed circuit television considerations as they apply to the educational process. It is designed to furnish educators, members of boards of education, school administrators, and other key people with a maximum of background information that will assist them in determining appropriate and valid applications of television within their area of concern.

CONTENTS—The Role of Television in Education. Basic Television Systems. Television Equipment and Accessories. Equipping Building for Television. Personnel and Programming. Guideposts for Planning. Appendix. Glossary. Bibliography.

MIDWEST PROGRAM ON AIRBORNE TELEVISION INSTRUCTION—Using Television in the Classroom

Edited by MARY HOWARD SMITH, Southern Regional Education Board.

118 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961).....$2.95*c*

This volume was prepared by the Midwest Program on Airborne Television Instruction, an organization set up to beam taped instructional material by airplane to schools in six states. It gives the classroom teacher an introduction to ITV (instructional television), together with suggestions for its practical use. It describes the history, use, and potential of ITV; analyzes the partnership between the classroom teacher and the studio teacher; discusses the classroom teacher's role in ITV; and gives "real life" examples of television lessons in the classroom.

CONTENTS—Foreword, the Midwest Program on Airborne Television Instruction. Preface. PART I. INTRODUCING THE CLASSROOM TEACHER TO TELEVISION. Instructional Television and Education. The Teaching Partnership. Sources and Resources. PART II. THE ROLE OF THE CLASSROOM TEACHER. Preparation for Learning with Television. Organizing the Classroom. Utilizing the Television Lesson. Appraisal and Evaluation. PART III. DEMONSTRATIONS OF INSTRUCTIONAL TELEVISION IN USE. Elementary and Secondary Schools. Colleges and Universities. Postscript: Instructional Television and the Teacher's Future.

GARRY, RAINSBERRY, WINICK AND TELEVISION INFORMATION OFFICE—For the Young Viewer

By RALPH GARRY, Boston University, FRED RAINSBERRY, C.B.C., Canada, CHARLES WINICK, Columbia University, and TELEVISION INFORMATION OFFICE.

† *Textbook edition available at educational list price.*

182 *pp.*, 7 *x* 9¼ (1962).....$5.95*t*
This book, sponsored by the Television Information Office, discusses the entire field of children's programs. Three distinguished specialists in this area of TV broadcasting have each contributed extensive discussions of a particular phase of children's programming. The book discusses five classes of programs in detail: exploration, doing, stories, orientation, and multi-purpose. Appended to the discussion of each type of program is a comprehensive listing of typical offerings of this type by various networks in different cities in the U. S. Pertinent details are given about each program—length, number of cameras, sponsored or unsponsored, etc.

Theatre

HEWITT—Theatre U.S.A.—1668–1957
By BARNARD HEWITT, University of Illinois.
513 *pp.*, 6 *x* 9, 87 *illus.* (1959)....$11.25*t*†
An account of the development of the American theatre from its beginnings as an offshoot of the English theatre to eventual maturity and independence. The story of our theatre is told through contemporary accounts connected by the author's commentary which places, amplifies, and emphasizes changes in the plays, acting, audience, theatre building, scenery, machinery, lighting, costuming and business.
CONTENTS—List of Illustrations. Preface. The Original Pioneers. 1668–1782. The "Easy" Period, 1782–1810. Growing Pains, 1810–1850. Resident Company vs. Travelling Star, 1850–1870. Realism and the Régisseur, 1870–1890. Business and Art, 1900–1920. Fulfillment, 1920–1930. The Big Squeeze, 1930–1940. Prosperity, Strictly Limited, 1940–1957. The Selections and Their Authors. For Further Reading.

STRICKLAND—The Technique of Acting
By F. COWLES STRICKLAND, Stanford University.
306 *pp.*, 6 *x* 9, 30 *illus.* (1956).....$8.25*t*†
Provides a course of study with numerous exercises that will help the student actor acquire the valuable knowledge he would learn if he had the opportunity of working for several years with mature, experienced actors. The book not only isolates, analyzes, describes, and evaluates the various technique which have been developed by actors for the projection of the thought and emotions of the characters of a play, but also explains the techniques common to every type of play and acting from Greek tragedy to naturalism. The exercises, accompanied by specific instructions as to the knowledge and skill which is to be acquired in performing them, are the core of the book.
CONTENTS—How to Use This Book. The Nature of Technique. A Beginning Exercise. The Entrance. Phrasing Actions in Relation to Thoughts. Progressions. The Use of Techniques to Build a Climax. Timing. The Size of a Performance. Pointing. The Invention of Actions. Timing, Rhythm, Tempo, and Pace. Style. The Design of a Role. Name Index. Subject Index.

OMMANNEY—The Stage and the School
By KATHARINE ANNE OMMANNEY, formerly, North High School, Denver, Colorado. Third Edition.
530 *pp.*, 6¼ *x* 9¼, 219 *illus.* (1960)..$6.12*s*
Katharine Ommanney's long experience in all phases of the amateur and professional theater makes her one of the foremost American authorities on the role of drama in education. In this book she combines instruction and practice in acting techniques and production procedures with a broad survey of the history and structure of drama. Scenic design, costuming, make-up, rehearsing, speech, pantomime. Shakespearean drama, motion pictures, and television are among the subjects covered. New features in this edition include scenes for student dramatization, 200 photographs, a glossary of stage terms, and a 15-page photo-essay on the production of a Broadway play.
CONTENTS—Part I: ENJOYING THE DRAMA. You and the Theater. Plays and Players. Beginning to Act. Part II: UNDERSTANDING THE DRAMA. Structure of Drama. Varieties of Drama. History of Drama. Shakespearean Drama. Part III: INTERPRETING THE DRAMA. Pantomime. Voice and Diction. Acting. Part IV: PRODUCING THE DRAMA. Fundamentals of Play Production. Stage Setting and Lighting. Costume and Make-up. The Performance and Its Evaluation. Part V: MOTION PICTURES, RADIO, AND TELEVISION. Motion Pictures. Radio and Television. APPENDIXES. *Poor Maddalena*, a one-act play. Classified List of Plays for Student Production and Reading. Classified Bibliography for Supplementary Reading. Glossary.

SHAKESPEARE—Mercury Edition
The Orson Welles–Roger Hill acting versions, animated by Welles' own stage directions and pen-and-ink drawings.
Julius Caesar. *cloth*
63 *pp.*, 6¼ *x* 9½ (1939).....$2.36*s*
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GROSS AND GROSS—Teen Theater
A Guide to Play Production and Six Comedies
By EDWIN GROSS and NATHALIE GROSS with a foreword by MARGARET SCOGGIN. Illustrated by Edwin Gross.
256 *pp.*, 5½ *x* 8 (1953).....$3.25*j*
A book which gives complete descriptions of all the jobs necessary to produce a play—acting, directing, staging, handling properties, building scenery, costuming and make-up, publicity and business arrangements. For teen ages.

† Textbook edition available at educational list price.

Agriculture

McGRAW-HILL PUBLICATIONS IN THE AGRICULTURAL SCIENCES

(Pub. in Agr. Sc.)

R. A. Brink, Consulting Editor

Professor of Genetics, University of Wisconsin

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Animal Breeding

RICE, ANDREWS, WARWICK, AND LEGATES—Breeding and Improvement of Farm Animals

By VICTOR ARTHUR RICE, North Carolina State College, FREDERICK NEWCOMB ANDREWS, Purdue University, EVERETT JAMES WARWICK, U.S.D.A., and JAMES EDWARD LEGATES, North Carolina State College. *Pub. in Agr. Sc.* Fifth Edition.

537 *pp.*, 6 *x* 9, 162 *illus.* (1957)....$9.95*c*

A highly successful text for the students of agriculture and animal husbandry, this book brings together as a complete whole reproductive physiology, genetics, and the art of breeding. It deals with the processes involved in the physiology of reproduction both from the scientific and practical angle. A discussion of the basic principles of genetics is included, and special attention is given to selection.

CONTENTS—PHYSIOLOGY OF REPRODUCTION. The Anatomy and Physiology of the Male Reproductive System. The Anatomy and Physiology of the Female Reproductive System. The Physiology of Spermatozoa and Ova. Pregnancy, Parturition, and Lactation. Lowered Fertility and Sterility. Breeding Management Practices. Artificial Insemination. HEREDITY AND VARIATION. Qualitative Heredity Quantitative Heredity. Variation. Population Genetics. Sex Determination and Sexual Differentiation. Lethals. BREEDING SYSTEMS AND SELECTION. Systems of Breeding—Related Animals. Systems of Breeding—Unrelated Animals. Crossbreeding and Linecrossing. General Principles of Selection. Selecting Dairy Cattle. Selecting Beef Cattle. Selecting Sheep. Selecting Swine. Index.

Plant Breeding

ELLIOTT—Plant Breeding and Cytogenetics

By FRED C. ELLIOTT, Michigan State University. *Pub. in Agr. Sc.*

395 *pp.*, 6 *x* 9 (1958).....$9.50*c*

This review of the general field of plant breeding is primarily concerned with fundamental principles and an evaluation of newer methods. This book begins with an analysis of the botanical and biological nature of crop plants. Next the significant features of reproduction and the manipulation of variability are discussed. Finally the methods of breeding, testing, and the maintenance of new varieties are outlined. Throughout the book emphasis is placed on the biological principles underlying plant breeding.

CONTENTS—Preface. The Nature of Crop Varieties. The Chromosome Mechanism in Heredity. The Significance of Recombination in Plant Breeding. The Role of Mutations in Plant Breeding. Polyploidy and Plant Breeding. Chromosome Substitution and Aneuploid Analyses in Plant Breeding. The Function of Introduction in Plant Breeding. Hybridization and Selection of Self-fertilizing Crops. The Improvement of Cross-fertilized Crop Plants by Hybridization. Breeding for Disease Resistance. Testing Plant Materials before Release as Varieties. Handling Plant Materials after Release as Varieties. Organization for Plant Improvement. Index.

HAYES, IMMER, AND SMITH—Methods of Plant Breeding

By H. K. HAYES, formerly University of Minnesota; F. R. IMMER and D. C. SMITH, University of Wisconsin. *Pub. in Agr. Sc.* Second Edition.

551 *pp., 6 x 9, illus.* (1955).....$10.50*c*
Emphasizing problems and methodology, this book brings together in an orderly, logical manner, current concepts in the field of plant breeding. Here, basic methods and procedures in plant breeding are outlined, fundamental problems are discussed, an introduction relating the subject to other plant biological fields and an orientation to basic botany and cytogenetics is presented, and crop plants are classified as to origin and mode of reproduction.
CONTENTS—The Role of Plant Breeding. The Genetic and Cytogenetic Basis of Plant Breeding. Heterosis. Mode of Reproduction in Relation to Breeding Methods. Techniques in Selfing and Crossing. The Pureline Method of Breeding Naturally Self-pollinated Plants. Hybridization as a Method of Improving Self-fertilized Plants. The Backcross Method of Plant Breeding. Breeding for Disease Resistance. Breeding for Insect Resistance. Special Techniques. Inheritance in Small Grains and Flax. Cotton and Sorghum Breeding. Development of Methods of Corn Breeding. Inheritance in Maize. Forage-crop Improvement. Breeding Other Cross-pollinated Plants. Seed Production. Some Commonly Used Measures of Type and Variability. Correlation and Regression in Relation to Plant Breeding. Chi-square Tests. Field-plot Technique. Experimental Designs and Statistical Methods for Simple Plant-breeding Experiments. Heritability. Appendix. Glossary. Literature Citations.

Animal Nutrition

MAYNARD AND LOOSLI—Animal Nutrition
By LEONARD A. MAYNARD and JOHN K. LOOSLI, Cornell University. *Pub. in Agr. Sc.* Fifth Edition.
544 *pp., 6 x 9, 90 illus.* (1962).....$9.50*c*
The general framework and character of this standard work, established by the senior author in the first edition, and followed in later ones, have been preserved. The text presents the principles of nutrition and their applications to feeding practice. It not only presents facts; it shows how many of them have been obtained, illustrating experimental methods which will continue to develop new facts in the future. The Fifth Edition takes account of the developments in the field of nutrition which have taken place since publication of the previous edition.
CONTENTS—GENERAL BASES OF NUTRITION. The Expanding Field of Nutrition. The Animal Body and Its Food. Some Physicochemical Bases of Life Processes. THE NUTRIENTS AND THEIR METABOLISM. The Carbohydrates and Their Metabolism. The Lipids and Their Metabolism. The Proteins and Their Metabolism. The Inorganic Elements and Their Elements. The Vitamins. Antibiotics, Hormones, and Other Growth-stimulating Substances. THE MEASUREMENT OF BODY NEEDS AND FEED VALUES. Feeding Experiments; the Determination of Digestibility. Nutritional Balances. Feeding Standards; Measures of Food Energy. NUTRITIVE REQUIREMENTS FOR BODY PROCESSES AND PRODUCTIVE FUNCTIONS. The Fasting Catabolism; Maintenance. Growth. Reproduction. Lactation. Work Production. APPENDIX. VISUAL AIDS BIBLIOGRAPHY. NAME INDEX. SUBJECT INDEX.

Soils and Soil Fertility

THOMPSON—Soils and Soil Fertility
By LOUIS M. THOMPSON, Iowa State College. *Pub. in Agr. Sc.* Second Edition.
451 *pp., 6 x 9, 165 illus.* (1957).....$7.75*c*
Designed for the beginning course in soils taught in all agricultural colleges, this book is general enough and complete enough to meet the needs of college students who take only one course in soils. It deals with the physical, biological, and chemical properties of soils in relation to their formation, classification, and management from the fertility point of view.
CONTENTS—Preface. Introduction. The Physical Properties of Soils. Soil Moisture. The Organic Matter of Soils. The Chemical Composition of Soils. Soil Formation and Classification. Clay Minerals. Acidity, and Alkalinity. The Principles and Practices of Liming. Nitrogen. Phosphorus. Potassium. Fertilizers. The Utilization of Farm Manure. Sulfur and the Minor Elements. Variations in Plant Composition. Crop Rotations and Soil Fertility. Soil Erosion and Its Control.

GUSTAFSON—Using and Managing Soils
By A. F. GUSTAFSON. *Rur. Act. Series.*
432 *pp., 6 x 9, 193 illus.* (1948).....$4.96*s*
*McG-H Paperbacks Ed.**
Presents basic information and practical suggestions on using and managing soils to the best advantage. All material is organized around the activities of soil conservation. Special emphasis is given to holding the soil in place against washing and blowing, and keeping the soil productive over the years.
CONTENTS—Getting Acquainted with the Soil. Selecting Land for Farming and Country Living. Tilling and Managing Crop Soils. Controlling Water in Soils. Controlling Soil Erosion. Managing Acid Soils. Managing Alkali Soils. Keeping Up Organic Matter and Nitrogen in Soils. Conserving and Using Farm Manures. Growing and Using Green-manure Crops. Selecting and Using Commercial Fertilizers. Planning Systems of Crop Rotation. Managing Pasture Soils. Managing Garden, Fruit, and Lawn Soils. Keeping Soils Protective over the Years. Appendixes: Chemical Information for Study of Soils, Fertilizers, and Crops. Appropriate Equivalents and Formulas. Location of State Agriculture Colleges, Extension Services, and Experiment Stations. Definitions of Terms Used.
* *Available only through your local bookstore.*

THORNE AND PETERSON—Irrigated Soils
Their Fertility and Management
By D. W. THORNE and H. B. PETERSON, Utah State Agricultural College. Second Edition.
392 *pp., 78 illus., 64 tables* (1954)...$8.95*c*
An outstanding text which pioneered in presenting irrigation in relation to other soil management practices. Since the publication of the first edition, research has shown that maximum yields from irrigation are dependent on the proper balance of such factors as fertility, plant population, plant characteristics, and crop rotations.
CONTENTS—Problems of Irrigated Regions. Soil as a Medium for Plant Growth. Soil and Water Relations. Soil, Water, and Plant Relations. The Salt Problem. Evaluating Land for Irrigation. Source and Quality of Irrigation Water. Measuring Irrigation Water. Planning a Farm for Irrigation. Irrigation Practice. Drainage. Reclamation and Management of Saline and Alkali Soils. Control of the Physical Properties of Soil. Control of the Biological Properties of Soil. Maintaining Organic Matter in Soil. Minerals and Plant Growth. Fertilizer Elements and Fertilizer Materials. Using Fertilizers. Soil Management for General Field Crops. Soil Management for Fruit, Vegetable and Specialty Crops. Farm Planning. Glossary. Appendix. Index.

COLLINGS—Commercial Fertilizers
Their Sources and Use
By GILBERT H. COLLINGS, Clemson College. Fifth Edition.
617 *pp., 6 x 9, illus.* (1955).....$11.50*r*
This text is an authoritative source on all problems concerning commercial fertilizers and their use in securing the most profitable yield in accord with human nutritional needs.
CONTENTS—Origin and Development of Use of Commercial Fertilizers. Source, Production, and Use of Sodium Nitrate. Manufacture and Use of Ammonium Sulfate. Manufacture and Use of Ammonium Nitrate. Manufacture and Use of Synthetic Nitrogenous Fertilizers. Sources and Uses of Organic Nitrogenous Fertilizers. Sources and Use of the Mineral Phosphates. Sources and Uses of Bone Phosphate and Basic Slag. Manufacture and Use of the Superphosphates. Use of Ammonia Solutions as Sources of Nitrogen in Mixed Fertilizers. Production, Manufacture, and Use

of the Potash Fertilizers. Fertilizers Carrying the Secondary Essential Elements—Sulfur, Calcium, and Magnesium. Fertilizers Carrying the Rarer Essential Elements. Fertilizers Carrying Elements Not Accepted as Essential for Plant Growth. Adjusting Soil Reaction and Fertilizer Practice to Crop Requirement. Principles Underlying the Purchase of Fertilizers. Principles Underlying the Use of Fertilizers. Application of Liquid Fertilizers. Application of Dry Fertilizers, and Their Influence on Germination and Seedling Growth.

Weed Control

CRAFTS AND ROBBINS—Weed Control
By ALDEN S. CRAFTS, Professor of Botany and Botanist in the Experiment Station, College of Agriculture, University of California, and WILFRED W. ROBBINS, Late Professor of Botany and Botanist in the Experiment Station, College of Agriculture, University of California. Third Edition.
671 *pp.*, 6 *x* 9, 171 *illus.* (1962)....$14.75*td*
Based on a physiological approach, this text and manual poses the problem of weeds in agricultural production, describes some of our most serious weed pests, introduces the principles of modern weed control, and tabulates present-day chemical methods. It classifies weed control methods on the basis of their mechanism rather than upon the crops to be treated. Thorough coverage includes numerous revisions, such as innovations in chemicalized control and reviews of current literature in the field.
CONTENTS—Weeds and Man. Cost of Weeds. Reproduction of Weeds. Methods for Preventing the Introduction and Spread of Weeds. Ecology of Weeds. Principles of Weed Control. Tillage Methods of Weed Control. Biological Control of Weeds. Use of Chemicals in Weed Control. Properties and Functions of Herbicides. Selective Herbicides—Foliage Contact Application. Selective Translocated Herbicides. Foliage-applied Systemics. Selective Herbicides—Root Applications. Nonselective Herbicides—Foliage Contact Applications. Nonselective Herbicides—Translocated Foliage Applications. Nonselective Herbicides—Root Applications. Combinations of Herbicides. Equipment Used in Applying Herbicides. Dosage and Application Recommendations—Cropped Areas. Selective Herbicides. Dosage and Application Recommendations—Noncropped Areas. Nonselective Herbicides. Special Weed Problems.

Agronomy

General Crops

RATHER AND HARRISON—Field Crops
By H. C. RATHER; and C. M. HARRISON, Michigan State University. *Pub. in Agr. Sc.* Second Edition.
446 *pp.*, 6 *x* 9, *illus.* (1951).....$8.50*c*
Designed for the beginning course in Farm Crops or Agronomy. It considers the major field crops, their distribution, planting, management, harvesting, and use.
CONTENTS—The Significance of Farm Crops. Classification of Farm Crops. Field Crops in Relation to Farm Management. Soil Conservation and Management. Tillage and Cultivation. Legumes for Forage. Perennial Forage Grasses. Annual Forage Crops. Hay-making. Silage. Pastures and Pasture Management. The Production of Forage Seed. Corn. Wheat and Rye. Oats and Barley. Miscellaneous Grain and Seed Crops. Small-grain and -seed Harvest. Large-seeded Legumes. Potatoes and Sweet Potatoes. Sugar Crops. Cotton. Tobacco. Crop Improvement. Appendix.

WOLFE AND KIPPS—The Production of Field Crops
By T. K. WOLFE, Southern States Cooperative and M. S. KIPPS, Virginia Polytechnic Institute. *Pub. in Agr. Sc.* Fifth Edition.
653 *pp.*, 6 *x* 9, 75 *illus.* (1959).....$8.75*c*
Gives basic, fundamental information on such topics as grassland farming, economics of crop production, and control of insect pests, and treats each method of operation of each of the major crops individually. It gives the origin, history, and production, and shows how, when, and where to plant, cultivate, harvest, and store such crops as corn, wheat, potatoes, sorghum, cotton and rice.
CONTENTS—GENERAL. History of American Agriculture. Economics of Crop Production. Adaptation of Crops. Classification of Field Crops. Germination and Growth. Plant Improvement. The Value and Use of Good Seed. Fertilizers and Lime. Manures. Preparation of the Seedbed. Seeding Practices. Tillage. Harvesting and Storage of Grain Crops. Grassland Farming. Haymaking. Silage. Pasture and Meadow Management. Weeds. Crop Rotation. CEREAL OR GRAIN CROPS. Corn. Wheat. Oats. Barley. Rye. Rice. LEGUMES FOR SEED. Peanuts and Soybeans. Cowpeas, Field Peas, and Field Beans. FORAGE CROPS. Pasture and Hay Grasses. Pasture and Hay Legumes. Alfalfa. Sorghums. Miscellaneous Forage and Seed Crops. ROOT CROPS. Sweet Potatoes. Carrots. Mangels and Turnips. FIBER CROPS. Cotton, Flax, and Hemp. TUBERS. Potatoes. SUGAR PLANTS. Sugar Beets and Sugar Cane. STIMULANTS. Tobacco. Index.

DUNGAN AND ROSS—Growing Field Crops
By GEORGE H. DUNGAN, formerly University of Illinois, and W. A. Ross, formerly U.S. Office of Education. *Rur. Act. Series.*
495 *pp.*, 6 *x* 9, 243 *illus.* (1957).....$6.00*s*
This book tells how to grow crop plants successfully. The book covers all the major crops of the country, such as corn, sorghums, small grains, soy beans, field beans, sugar beets, potatoes, cow peas, and legumes; plus important regional crops, such as cotton and tobacco.
CONTENTS—Introduction—How Field Crops Grow and Develop. Choosing Crops to Grow. Selecting Varieties of Field Crops. Providing Good Seed. Treating Seed for Planting. Preparing the Soil for Field Crops. Planting Seed and Setting Small Plants. Aiding Young Plants to Get Established. Cultivating and Stimulating Growth. Controlling and Eradicating Weeds. Controlling Harmful Field-Crop Insects. Preventing and Controlling Diseases. Harvesting Field Crops. Storing Field Crops. Marketing Field-Crop Products. Breeding and Improving Field-Crop Plants. Keeping and Using Field-Crop Records.

AHLGREN—Forage Crops
By GILBERT H. AHLGREN, Rutgers University. *Pub. in Agr. Sc.* Second Edition.
536 *pp.*, 6 *x* 9, *illus.* (1956).....$8.95*c*
Presents in a systematic manner the facts and fundamentals associated with the production of forages. Individual treatment of the most important legumes and grasses is intended to introduce the reader to the characteristics and adaptations associated with each.
CONTENTS—INTRODUCTION. History and Development. Production and Use. Climate and Soil. Characteristics of Grasses and Legumes. THE MAIN LEGUMES. Spread of Alfalfa. Growing Alfalfa. Red Clover and Alsike Clover. White Clover. Birdsfoot Trefoil and Sweetclover. Lespedeza and Kudzu. Soybeans, Cowpeas, and Peanut Vines. Crimson Clover, the Vetches, and Field Peas. THE PRINCIPAL GRASSES. Timothy and Bromegrass. Redtop, Reed Canarygrass, and Meadow Foxtail. Orchardgrass, Tall Oatgrass, and Tall Fescue. Kentucky Bluegrass. Bahiagrass, Bermudagrass, Carpetgrass, and Dallisgrass. Some Dry-land Grasses. Sudangrass, Johnsongrass, and Sorghum. Small Grains and Millets. Silage Corn. REQUIREMENTS FOR SEEDING. Seed Technology. Forage Mixtures. Soil and Seedbed Preparation. Companion Grain Crops. Seed Placement and Seeding Patterns. PRODUCTION. Mineral Nutrition. Grassland Mechanization. Hay Quality. Making Hay. Grass Silage. Pasture Management. Range Manage-

ment. Seed Production. PROBLEMS AND PROSPECTS. Conservation Cropping. Forage Insects. Some Important Diseases. Weed Control. Grassland Farming. INDEX.

WILSON—Grain Crops
By HAROLD K. WILSON, deceased. *Pub. in Agr. Sc.* Second Edition.
396 *pp.*, 6 *x* 9, *illus.* (1955).....$7.95*c*
Covers the characteristics, botany, growth habits, varieties, growing, harvesting, and marketing problems as related to each major crop. The various items of subject matter are arranged in a logical sequence, with the more general phases, as related to all crops, considered in the early chapters, and the more detailed discussion of individual crops reserved for later chapters.
CONTENTS—Preface. Grain Crops and Environment. Plant Classification. Distribution of Grain Crops. Crop Rotation. Soils for Grain Crops. The Culture of Grain Crops. Weeds. Diseases of Grain Crops. Insect Pests of Grain Crops. Wheat and Rye. Oats. Barley. Flax. Rice. Buckwheat. The Millets. Soybeans. Corn Growing. Corn Harvesting and Storage. Sweet Corn. Popcorn. Grain Sorghums. Marketing of Grain Crops. Improvement of Grain Crops. Index.

STATEN AND JONES—Farm Crops, Judging, Identification, and Grading
By H. W. STATEN and MELVIN D. JONES, Oklahoma Agricultural and Mechanical College.
251 *pp.*, 107 *illus.* (1951).....$6.95*c*
A practical, "how-to-do-it" guide. It is easy to read, easy to use. Written by recognized leaders in the field, it deals with the general aspects of judging, describes in brief but simple language approximately 350 field crops, varieties and weeds, and discusses the commercial grading of grain, hay, and cotton.
CONTENTS—Part I. The Art and Science of Judging. Scorecards, Training a Judging Team, and Free Fairs. Part II. Identification of Farm Crops, Weeds, and Diseases. Part III. Commercial Grading. Glossary. Bibliography. Index.

Special Crops

BROWN AND WARE—Cotton
By HARRY B. BROWN, Emeritus Louisiana State University, and J. O. WARE, University of Arkansas and U.S. Department of Agriculture. *Pub. in Agr. Sc.* Third Edition.
566 *pp.*, 6 *x* 9, 145 *illus.* (1958)....$14.00*c*
The aim of this book is to give in brief and simple form information on cotton growing and various phases of the cotton industry. Cotton is traced from the field to its finished product, its technological importance in the field of all textile fibers is pointed up, and its great value to the economy of the United States and the world is emphasized. Included is information on new methods, new cotton varieties, culture, fertilizers, disease control, harvesting.
CONTENTS—Preface to the Third Edition. Preface to the First Edition. History of Cotton and the Cotton Industry. Taxonomy of the Cotton Plant. Cultivated Varieties of Cotton. Standardization of Cotton Varieties. Morphology of the Cotton Plant. Variation, Heredity, and Correlation. Problems and Methods in Cotton Breeding. Cotton Diseases. Cotton Insects. Chemistry of the Cotton Plant. Physiology of the Cotton Plant. Climate and Soils for Cotton. Soil Fertility and Cotton Production. Cotton Culture. Cotton Harvesting. Cotton Ginning. Cotton Fibers. Cotton Classing. Cotton Marketing. Cotton Futures Exchanges. Textile Importance of Cotton. Cotton Manufacturing. Cottonseed. Processing and Products. The Position of Cotton and Competition. Cotton Statistics. Index.

CARDOZIER—Growing Cotton
By V. R. CARDOZIER, University of Maryland. *Rur. Act. Series.*
424 *pp.*, 6 *x* 9, *illus.* (1957).....$6.20*v*
This book tells the reader how to grow cotton and market it successfully. The author treats every step, from the farmer's decision to grow cotton, through getting the most money for his cotton. He tells the farmer how to follow the procedures in growing cotton that will help him make the most profit.
CONTENTS—Deciding to Grow Cotton. Choosing the Variety. Obtaining and Processing Seed. Selecting and Preparing Soil. Selecting Fertilizers. Using Fertilizers. Planting and Spacing. Controlling Weeds. Irrigating. Controlling Diseases. Controlling Insects. Defoliating. Harvesting. Ginning. Classing. Marketing.

GARNER—The Production of Tobacco
By WIGHTMAN W. GARNER, formerly United States Department of Agriculture. Revised First Edition.
520 *pp.*, 81 *illus.*, 11 *tables* (1951)..$10.50*c*
Presents all aspects of the production of tobacco, including its botany, history, growing, curing, marketing, physiology, chemistry, and genetics.
CONTENTS—The Tobacco Industry: The Tobacco Plant and Its Product, Commercial Leaf Tobacco; History of the Tobacco Industry and Present Distribution of Production in the United States. Growing, Curing, and Marketing the Crop: General Principles of Tobacco Culture; Tobacco Varieties; Soils and Cropping Systems for Tobacco; Fertilization of the Tobacco Crop; The Seed Bed or Plant Bed; Transplanting, Field Care of the Crop, and Harvesting; Curing the Leaf; Grading and Marketing; Production Costs and Profits; Tobacco Production in Other Lands; Tobacco Diseases and Their Control; Insect Pests of Tobacco and Their Control. Physiology, Chemistry, and Genetics of Tobacco: Morphological, Anatomical, and Chemical Characteristics of Tobacco; Elements of Quality in Tobacco and Factors Influencing Them; Mineral Nutrition of Tobacco; Characteristics of Tobacco Soils; Climate, Weather, and Cultural Practices in Relation to Yield and Quality; Curing, Fermentation, and Aging of Tobacco; Chemical Composition of Tobacco and Its Relation to Type and Quality; Tobacco Genetics and Breeding; Tobacco Manufactures. Bibliography; Index of Authors; Subject Index.

GUISE—The Management of Farm Woodlands
By CEDRIC H. GUISE, formerly Cornell University. *Amer. For. Series.* Second Edition.
356 *pp.*, 6 *x* 9, 82 *illus.* (1950).....$7.50*c*
The economic, biologic, and technical relationships involved in growing, harvesting, and managing farm woodlands for continuous production.
CONTENTS—Farm Woodlands and Forestry. The Structure Physiology of Trees. Ecology of Woodlands. The Volumes of Woodland Products. Surveys and Maps. The Volumes of Trees and Stands. The Increment and Yield of Growing Timber. The Care and Improvement of Woodlands. Establishing New Woodlands. Forest Planting. Protection of Farm Woodlands. The Utilization of Woodland Products. The Marketing of Woodland Products. The Durability and Preservative Treatment of Farm Timbers. Woodland Management. Index.

Turf Management

MUSSER—Turf Management
By H. BURTON MUSSER, Pennsylvania State University. Revised Edition.
368 *pp.*, 6 *x* 9, *illus.* (1961).....$10.95*td*
This complete new revision of a standard work devoted exclusively to the upkeep of golf turf, public park lawns, and other large lawn areas is a valuable and comprehensive handbook for greenskeepers and custodians of lawns in private parks, cemeteries, and private estates. The book contains a wealth of information on the propagation of turf grasses, maintenance of turf, fertilizers, drainage and irrigation, weed and insect control, turf diseases and related damages, and the elements of golfcourse design and operation.

Horticulture

General Horticulture

CHRISTOPHER—Introductory Horticulture

By E. P. CHRISTOPHER, University of Rhode Island. *Pub. in Agr. Sc.*

490 *pp.*, 6 *x* 9, *illus.* (1958).....$8.50*c*

A text for beginning courses in horticulture and a valuable source of information for gardeners who want to know some of the scientific background for various horticultural practices. Although the treatment of major crops is sufficiently complete to permit the book to be used as a cultural guide, the primary emphasis is on principles rather than rule-of-thumb directions. The book is divided into two general sections. The first provides a background in basic science and such subjects as soils, fertilizers, propagation, and growing structures. The second section treats specific horticultural crop groups, such as fruits, vegetables, and flowers.

CONTENTS—Preface. Field of Horticulture. Classification, Structure, and Growth of Plants. Climate and Horticulture. Soil and Soil Amendments. Plant Propagation. Plant Growing Structures. Vegetable Crops I. Vegetable Crops II. Outdoor Floriculture. Indoor Floriculture. Tree Fruits (Pomes). Drupe and Evergreen Fruits. Small Fruits. Home Landscape. Nurseries and Arboriculture. Plant Growing Problems: Abnormalities and Pest Control. Storage and Marketing. Horticultural Shows and Judging. Index.

EDMOND, SENN AND ANDREWS—Fundamentals of Horticulture

By J. B. EDMOND, Mississippi State University, T. L. SENN, Clemson Agricultural College, and F. S. ANDREWS, Virginia Polytechnic Institute. Third Edition.

456 *pp.*, 6 *x* 9 (1963).....$8.95*c*

This new edition is written, as were the previous editions, for use as a text in basic courses in horticulture. Its purpose is threefold: to provide an opportunity for the student to acquire a working knowledge of the fundamentals of plant growth, to develop the ability to apply the fundamentals to the solutions of practical problems, and to obtain an appreciation of the significance of horticulture in human affairs.

CONTENTS—Preface. Fundamental Plant Processes. Plant Tissues and Structures. Phases of Growth and the Carbohydrates. The Water Supply as the Limiting Factor. Temperature as the Limiting Factor. Light as the Limiting Factor. The Essential Elements as Limiting Factors. Propagation. Climates, Sites, and Soils. Soil Organic Matter. Use of Commercial Fertilizers. Plant Growing Structures. Transplanting. Controlling Weeds. Irrigating. Pruning. Controlling Pests. Preservation. The Tree Fruits. Nut Fruits. Tropical and Sub-Tropical Fruits, Tung. Grapes and Small Fruits. Vegetable Crops Grown for Their Stems or Leaves. Vegetable Crops Grown for Their Fleshy Vegetative Structures. Vegetable Crops Grown for Their Fruit or Seed. Commercial Floriculture. Nursery Plants. Horticulture and the Home. Index.

ADRIANCE AND BRISON—Propagation of Horticultural Plants

By GUY W. ADRIANCE and FRED R. BRISON, Agricultural and Mechanical College of Texas. *Pub. in Agr. Sc.* Second Edition.

298 *pp.*, 6 *x* 9, *illus.* (1955).....$8.50*c*

Designed for the commercial nurseryman, the amateur propagator and gardener, and the student of horticulture, this book contains a comprehensive discussion of the various methods of propagation, including seedage, layerage, cuttage, bulbs, and graftage. Here is an extensive survey of present day practices and also some fundamental information on plant structure, types of plants based on life cycle, plant dissemination, pollination, fertilization, fruit setting, forcing equipment, soil handling, and pruning, and the relationship of these to propagation.

CONTENTS—Preface. History and Development of Horticulture. The Structure of Plants. Inflorescences, Flowers, Fruits, and Seed. Special Plant-growing Equipment. Methods of Propagation. Germination of Seeds. Methods of Seedage. Layerage. Cuttage. Bulbs and Other Modified Structures. Graftage. Methods of Grafting. Methods of Budding. Propagation of Important Horticultural Plants. Transplanting. Pruning. Index.

Floriculture

LAURIE AND RIES—Floriculture

Fundamentals and Practices

By ALEX LAURIE and VICTOR H. RIES, Ohio State University. *Pub. in Agr. Sc.* Second Edition.

525 *pp.*, 6 *x* 9, 79 *illus.* (1950).....$9.95*c*

A standard text dealing with the many crops and phases of ornamental gardening. The chapter on pest control has been revised and brought up to date in the new edition, and new methods of applying water, as well as simple devices for measuring moisture in soils, have been included.

CONTENTS—How Plants Grow. Soils. Fertilizers. Horticultural Taxonomy. Soilless Culture. Cold Frames. Hotbeds, and Greenhouses. Garden Design. Propagation of Plants. Lawns. Annuals. Perennials. Flowering Bulbs. The Rock Garden. Roses. Water Gardens. Woody Plants. House Plants. Insert Pests and Plant Diseases. Greenhouse Management. Index.

LAURIE, KIPLINGER, AND NELSON—Commercial Flower Forcing

By ALEX LAURIE, D. C. KIPLINGER, The Ohio State University, and KENNARD S. NELSON, Jednak Floral Co., Columbus, Ohio. Sixth Edition.

309 *pp.*, 6 *x* 9, 73 *illus.* (1958).....$12.50*c*

Takes account of the many refinements in the culture of plants which have taken place during the last ten years. Deals also with the changes in the production picture in cut flowers due to additional studies in photoperidism and temperature, and those brought about by the rapid changes in transportation facilities. The changes which the marketing aspects are undergoing are also taken into consideration. The subject matter is dealt with in a readable manner, and the book should be of value to both the student and the commercial flower grower.

CONTENTS—Preface. Status and Development of the Industry. Greenhouses and Related Structures. Greenhouse Heating and Cooling. Environmental Factors Influencing Plant Growth. Soils. Gravel Culture. Fertilizers. Reproduction. Diagnosing Plant Disorders. Major Cut Flower Crops. Miscellaneous Cut Flower Crops. Bulbs, Corms, and Tubers. Flowering Pot Plants. Foliage Plants, Cactus, and Succulents. Bedding Plants. Marketing. Costs of Production. *Index.*

Fruit Crops

GARDNER, BRADFORD, AND HOOKER—Fundamentals of Fruit Production

By V. R. GARDNER, United States Department of Agriculture, F. C. BRADFORD, and H. D. HOOKER, JR. *Pub. in Agr. Sc.* Third Edition.

739 *pp.*, 6 *x* 9, 55 *illus.* (1952)....$13.00*c*

Explains in an orderly, systematic manner how basic underlying principles of plant anatomy,

morphology and physiology, and of soil science and climatology, apply to the culture of fruit plants. Emphasis is on principles underlying growth and culture, not the details of practices. The treatment deals principally with the more common deciduous fruits. However, much illustrative material is drawn from non-deciduous fruits and other crop plants. The scope is world-wide.

CONTENTS—Water Relations. Nutrition. Temperature Relations of Fruit Plants. Light Relations. Growth Regulators. Pruning. Fruit Setting.

SHOEMAKER—Small Fruit Culture

By JAMES S. SHOEMAKER, University of Florida. Third Edition.

433 *pp.*, 6 *x* 9, 64 *illus.* (1955).....$8.50*c*

Presenting a wealth of valuable information for the individual gardener or the commercial fruit grower, this book covers the culture of grapes, strawberries, bramble-fruits, currants and gooseberries, blueberries, and cranberries. The author has divided the country into regions and discusses culture for each region. Everything is included for each type of fruit: brief history, list and description of leading varieties, propagation methods, and all other cultural instructions. There are also valuable suggestions for harvesting and handling the crop. The emphasis throughout is on practical applications in this reference guide for digging, planting, spraying, and other field work.

CONTENTS—Introduction. Grape Culture. Strawberry Culture. Bramble-Fruit Culture. Currant and Gooseberry Culture. Blueberry Culture. Cranberry Culture. References.

Vegetable Crops

THOMPSON AND KELLY—Vegetable Crops

By H. C. THOMPSON and WILLIAM C. KELLY, Cornell University. *Pub. in Agr. Sc.* Fifth Edition.

619 *pp.*, 6 *x* 9, *illus.* (1957).....$10.50*c*

Covers the field of vegetable production and handling, emphasizing principles on which successful operations are based. This book will serve as a college text and as a reference for county agricultural agents, extension specialists, teachers of vocational agriculture, seedsmen, and other commercial concerns that have contact with the vegetable industry.

CONTENTS—Vegetables and Vegetable Growing. Classification of Vegetables. Soils and Soil Preparation. Manures and Soil-improving Crops. Commercial Fertilizers and Lime. Seeds and Seed Growing. Plant Growing and Plant Growing Structures. Planting Vegetable Crops in the Open. Cultivation. Mulches, and Chemical Methods of Weed Control. Irrigation. Rotation, Succession, and Intercropping. Control of Diseases and Insects. Marketing. Storage of Vegetables. Perennial Crops. Potherbs or Greens. Salad Crops. Cole Crops. Root Crops. Bulb Crops. The Potato. The Sweet Potato. Beans and Peas. Solanaceous Fruits. The Cucurbits or Vine Crops. Sweet Corn. Okra. Martynia. Chayote. Yam. Dasheen. Manioc. List of Experiment Stations. Literature Cited. Index.

MacGILLIVRAY—Vegetable Production

With Special References to Western Crops

By JOHN H. MACGILLIVRAY, University of California, Berkeley.

480 *pp.*, 105 *illus.* (1953).....$9.50*c*

Equally valuable to the large-scale commercial grower, market gardener, home gardener, or agricultural student, this book tells how to handle each vegetable raised for market—through planting, irrigation, fertilizing, other soil treatment, gathering, grading, packing, and shipping. It gives a new and original temperature-classification of crops, which is extremely useful and almost universally applicable.

CONTENTS—PRODUCTION PRINCIPLES: Types of Vegetable Production; Classification of Vegetables; Economic Importance and Production Areas; Soils for Vegetable Production; Physiological Factors Affecting Vegetable Production; Improvement of Vegetables Through Plant Breeding; Quality and Characteristics of Seed; Plant Growing; Irrigation of Vegetables; Fertilizers, Manure, and Organic Matter; Preservation of Vegetables; Vegetable Grades and Grading; Food Value of Vegetables; Insect and Disease Control. CULTURAL PRACTICES: Group A. Cool Season Crops Tolerant of Slightly Freezing Weather: *Spinach, Cabbage, Sprouting Broccoli, Minor Crops.* Group B. Cool Season Crops Damaged Near Harvest by Freezing Weather: *Cauliflower, Globe Artichoke, Lettuce, Pea, Potato, Celery, Carrot, Minor Crops.* Group C. Cool Season Crops Which Thrive over a Wide Range of Temperature and Are Tolerant of Frost: *Onion, Asparagus. Minor Crops.* Group D. Warm Season Crops Intolerant of Frost: *Sweet Corn, Snap Bean, Lima Bean, Tomato, Pepper, Summer and Winter Squash, Cucumber, Cantaloupe, Minor Crops.* Group E. Warm Season Crops Requiring Continuous Warm Weather: *Watermelon, Sweet Potato, Minor Crops.* Index.

Animal Husbandry

Livestock Production

DEYOE, ROSS, AND PETERS—Raising Livestock

By GEORGE P. DEYOE, University of Illinois, W. A. ROSS, formerly U.S. Office of Education, and W. H. PETERS. *Rur. Act. Series.* Second Edition.

540 *pp.*, 6 *x* 9, *illus.* (1954).....$6.00*s*

Presents practical information dealing with actual jobs in all phases of livestock production. It is especially easy to read, providing simple, direct instructions and clear-cut information, and is exceptionally well illustrated.

CONTENTS—Engaging in the Livestock Business. Selecting Livestock. Feeding Livestock Providing Housing and Equipment for Livestock. Caring for and Handling Livestock. Keeping Livestock Healthy and Sound. Breeding and Improving Livestock. Keeping and Using Livestock Records. Marketing Livestock and Livestock Products. Preparing and Processing Livestock Products for Home Use. Appendix. Correlated List of Visual Aids.

Swine Production

CARROLL, KRIDER, AND ANDREWS—Swine Production

By W. E. CARROLL, University of Illinois, J. L. KRIDER, Central Soya Company, Inc. Ft. Wayne, Indiana, and F. N. ANDREWS, Purdue University. *Pub. in Agr. Sc.* Third Edition.

442 *pp.*, 6 *x* 9, 87 *illus.* (1962).....$8.75*c*

Presents detailed information on the breeding, feeding, management, and marketing of commercial hogs, feeder pigs, and purebred swine. Throughout, the profit motive is emphasized. The discussions of the basic principles of physiology, breeding, nutrition, management, etc., are handled so the reader may grasp *why* and *how* to master the potential profits of the swine enterprise. The new coauthor introduces the latest information on breeding, use of antibiotics, and other new scientific developments

pertinent to the field. The text also summarizes the latest results of various methods of breeding, including favorable results of planned crossbreeding. Much emphasis is placed upon the proper practices to be followed with the breeding herd, young pigs, and growing-finishing hogs. The principles underlying the problems of profitable swine production are presented clearly so each reader may apply these to his individual situation.

CONTENTS—Preface. PART ONE. ORGANIZATION A FACTOR IN THE COST OF PRODUCTION. Functions of the Swine Enterprise. Characteristics of Swine and of Their Production. The Enterprise and the Farm. The Number and Kind of Hogs Affect Cost of Production. PART TWO. ESTABLISHING A SWINE ENTERPRISE A FACTOR IN THE COST OF PRODUCTION. Breed and Cost of Production. The Physical Basis of Selection in Swine. The Genetic Basis of Selection in Swine. Performance Testing and Improvement in Swine. The Physiology of Reproduction in Swine. Breeding Management Practices in Swine. PART THREE. MANAGEMENT AS A FACTOR IN THE COST OF PRODUCTION. The System of Management May Affect Costs. Management a Factor in the Number and Quality of Pigs Weaned. From Weaning to Market, a Factor in Costs and Profits. Equipment a Factor in the Cost of Production. PART FOUR. FEED AS A FACTOR IN THE COST OF PRODUCTION. The Importance of Feed in Swine Production. Nutrient Requirements of Swine. Cereal Grains as Swine Feeds. Milk, Animal and Marine Products. Protein and Vitamin Supplemental Feeds of Plant Origin and Antibiotics. Forage Crops for Swine. Formulation of Rations for Efficient Production. Preparation of Feeds and Methods of Feeding. Feeding the Breeding Herd and Young Pigs. Marketing Hogs a Factor in Profits. Index.

DEYOE AND KRIDER—Raising Swine

By GEORGE P. DEYOE, University of Illinois, and J. L. KRIDER, Central Soya Co. *Rur. Act. Series.*

435 *pp.*, 6 *x* 9, *illus.* (1952).....$5.50*s*

Presents information on swine production helpful to agriculture students and to practical raisers of swine. Organized around the practical activities of swine raising, the material deals with all major phases of swine production.

CONTENTS—Engaging in Swine Raising. Selecting and Purchasing Swine. Keeping and Using Records. Planning a Feeding Program for Swine. Feeding Swine. Providing Facilities for Raising Swine. Handling and Caring for Swine. Keeping Swine Healthy. Breeding and Improving Swine. Marketing Swine.

Meats

BULL—Meat for the Table

By SLEETER BULL, formerly University of Illinois.

240 *pp.*, 6 *x* 9, *illus.* (1951).....$5.95*c*

An informative guide to the selection and purchase of all standard market meats. A survey of meat's place in the diet, down through history, is given together with the economics of meat production and the meat packing industry. Descriptive charts are included which show the proper ways of cooking different grades of meat. There are also detailed instructions on processing meats for the home freezer. The emphasis throughout the book is on getting the highest nutritive value from the most economical cuts of meat.

CONTENTS—The History of Meat in the Diet. The Economics of Meat Production. The Meat-packing Industry. The Physical Structure of Meat. The Chemical Composition and Nutritive Value of Meat. Cooking Meat. Beef. Pork. Veal. Lamb and Mutton. Cured Meat. Sausages. The Economy of Different Retail Cuts. Meat for the Freezer. The Retail Butcher. The Art of Carving. Index.

Dairy Husbandry and Dairying

Dairying

ECKLES, COMBS, AND MACY—Milk and Milk Products

By CLARENCE H. ECKLES, WILLES B. COMBS, and HAROLD MACY, University of Minnesota. *Pub. in Agr. Sc.* Fourth Edition.

454 *pp.*, 6 *x* 9, 99 *illus.* (1951).....$7.95*c*

Designed as an introduction to the general subject of dairying and dairy processing. The authors have concentrated on the presentation of acknowledged facts pertaining to the composition of milk, its properties, food value, and bacteriology, and its use in the preparation of cheese, butter, ice cream, condensed milk, and dry milk. They draw the student's attention to the various branches of the dairy industry without going into great detail about any of them.

CONTENTS—Introduction. The Constituents of Milk. Factors Influencing the Composition of Milk. Properties of Milk. Milk and Dairy Products as Food. Microorganisms. The Babcock Test for Determining Fat in Milk and Cream. Common Dairy Processes. Market Milk. The Manufacture of Dairy Products—Butter. The Manufacture of Dairy Products—Cheese. The Manufacture of Dairy Products—Ice Cream. The Manufacture of Dairy Products—Condensed Milk, Dry Milk, Milk By-products. Dairy Arithmetic. Miscellaneous Tests. Appendix. Index.

HERRINGTON—Milk and Milk Processing

By B. L. HERRINGTON, Cornell University. *Pub. in Agr. Sc.*

343 *pp.*, 6 *x* 9, 32 *illus.* (1948).....$7.50*c*

Intended to give the student an appreciation of the work of the dairy industry and understanding of milk and milk products. For the student majoring in dairy industry, the author provides basic information and the vocabulary needed for more advanced study. The emphasis is on the principles underlying the processing of milk. There is background material in biochemistry, and some previous general knowledge of chemistry is assumed.

CONTENTS—Preface. The Dairy Industry. Milk—Its Nature and Properties. The Fats in General. The Fats of Milk. The Proteins. The Principal Proteins of Milk. Lactose and the Carbohydrates. The Minor Constituents of Milk. Acidity. Microorganisms. Pasteurization. Creaming and Cream Separation. Homogenization. The Market-milk Industry. Market Cream. The Butter Industry. Concentrated Milks. The Dry-milk Industry. The Ice-cream Industry. The Cheese Industry. The Casein Industry. Lactose and Lactic Acid. The Babcock Test. Lactrometry. Index.

Dairy Industry

ROADHOUSE AND HENDERSON—The Market Milk Industry

By CHESTER LINWOOD ROADHOUSE, University of California at Davis, and JAMES LLOYD HENDERSON, Golden State Company, Ltd., San Francisco. *Pub. in Agr. Sc.* Second Edition.

716 *pp.*, 6 *x* 9, 171 *illus.* (1950)....$10.50*c*

Provides an understanding of the technical and economic phases of the market milk industry. The new edition includes improved new processing methods for commercial milk products

such as frozen milk and cream, plastic cream, and dehydrated milk.

CONTENTS—History and Development of the Market-milk Industry. The Composition of Milk and Its Physical and Chemical Properties. Bacteriology in Relation to Market Milk. Milk, and the Public Health. Safeguarding the Milk Supply. Sanitary Production of Market Milk. Construction and Arrangement of Sanitary Dairy-farm Buildings. Country Milk-receiving Stations. The Transportation of Milk. Flavors of Milk. Construction and Arrangement of City Milk Plant. Milk-plant Operation. Washing and Sterilizing Daily Equipment. Pasteurization of Milk. Mechanical Refrigeration. The Cooling of Milk. The Creaming of Milk. Table Cream and Pastry Cream. Special Milk Products. The Distribution of Milk. The Cost of Milk Production. The Price of Milk and Price Plans. Dairy Inspection and Market-milk Control. Milk and Nutrition. The Milk-plant Laboratory and Its Operation. Appendix. Index.

TRACY, ARMERDING, AND HANNAH—Dairy Plant Management

By PAUL H. TRACY, University of Illinois, GEORGE D. ARMERDING, Mojonnier Brothers Co., and HAROLD W. HANNAH, University of Illinois. With the assistance of GEORGE W. HARPER, RUSSELL M. NOLEN, T. G. STITTS, CARL T. E. SUTHERLAND, and G. H. WILSTER. *Pub. in Agr. Sc.*

430 *pp.*, 6 x 9, 60 *illus.* (1958).....$9.50*c*

This book was written primarily for college students majoring in dairy technology, and for those in industry who may wish to prepare themselves for advancement in the field of dairy plant management. All aspects of the subject are covered, including plant design, equipment purchase, selection of personnel, accident prevention, the role of law in dairy plant management, and advertising. Major emphasis is placed upon labor relations, business management, business law, and plant efficiency.

CONTENTS—Preface. INTRODUCTION. Dairy Industry Trends. Business Organization and Finance. Going into Business. THE PHYSICAL PLANT. Location. Design. Construction and Maintenance. PLANT OPERATION. Efficiency Factors. Units of Operation. Equipment Maintenance and Replacement. Production Utilization. PERSONNEL. Selection and Training. The Labor Union. Industrial Relations. Accident Prevention. PRODUCTION CONTROL. Office Management. Reports and Records. PURCHASING. Milk and Cream Procurement. Milk and Cream Transportation. Equipment and Supply Purchasing. SALES. Sales Outlets. Advertising and Sales Promotion. Public Relations. LEGAL ASPECTS. The Role of Law. Statutory Regulation of Products. Ownership, Employment, and Contracts. Transportation and Sale. Appendix 1—Saving Plans. Appendix 2—Developing Leadership. Problems. Index.

Poultry Husbandry

JULL—Poultry Husbandry

By MORLEY A. JULL, formerly University of Maryland. *Pub. in Agr. Sc.* Third Edition.

526 *pp.*, 6 x 9, 254 *illus.* (1951).....$7.75*c*

Recent advances in poultry breeding, housing, nutrition, diseases control, marketing eggs and poultry, and increasing efficiency of production are included. The discussion on marketing eggs and poultry from the producer's standpoint is exceptionally comprehensive. The final chapter presents extensive material on factors affecting profits in the different branches of the poultry industry. Particular attention is given to the history and expansion of the commercial broiler industry.

CONTENTS—The Poultry Industry. The Breeds of Chicken. The Biology of the Chicken. Breeding Principles. Breeding Practice. Incubation Principles and Practice. Rearing Principles and Practice. Housing and Yarding Principles and Practice. Feeding Principles. Feeding Practice. Disease Prevention and Control. Marketing Eggs. Marketing Poultry. Economics of Production. Index.

Agricultural Engineering

McGRAW-HILL PUBLICATIONS IN AGRICULTURAL ENGINEERING

(Pub. in Agr. Engg.)

Quincy C. Ayres, Consulting Editor
Professor of Agricultural Engineering, Iowa State College

Ayres—Soil Erosion and Its Control
Ayres and Scoates—Land Drainage and Reclamation
Brown—Farm Electrification
Gray—Farm Service Buildings
Gulvin—Farm Engines and Tractors
Jones—Farm Gas Engines and Tractors
McColly and Martin—An Introduction to Agricultural Engineering
Smith—Farm Machinery and Equipment
Wooley—Planning Farm Buildings

AGRICULTURAL ENGINEERS' HANDBOOK

By C. B. RICHEY, Editor-in-Chief, Ford Motor Company; PAUL JACOBSON, U.S. Department of Agriculture, and CARL W. HALL, Michigan State University.

880 *pp.*, 6 x 9, 469 *illus.*, 232 *tables* (1961).....$21.50*hb*

Gives under one cover the theory and practice for the various areas of agricultural engineering, and the application of engineering to the problems of agriculture. The 41 specialists who compiled this unique volume are recognized authorities in their fields. Carefully selecting their material, they have included every detail that would make the book of practical, lasting service.

CONTENTS—Foreword by J. B. Davidson. Preface. CROP PRODUCTION EQUIPMENT. Economics of Farm Machinery. Design of Field Machinery. Power-transmission Elements. Wheels and Tires. Stress Measurements and Strength Analysis. Tractor Force Reactions. Tractor Design Objectives. Tractor Performance Tests. Fuels and Combustion. Power Controls for Implements. Tillage Objectives. Moldboard Plows. Disk Tools. Shovel and Sweep Tools. Minor Tillage Tools. Fertilizing and Liming Machines. Seeding and Planting Machines. Sprayers and Dusters. Mowers and Crushers. Rakes. Hay-handling Equipment. Balers. Forage Harvesters and Blowers. Combines. Corn-harvesting Machines. Cotton-harvesting Machines. Root-harvesting Equipment. Specialized Harvesting Equipment. Stalk and Brush Shredders. Farm Transport Equipment. Tractor Loaders. Feed Grinders. Feed Elevating and

Conveying Equipment. SOIL AND WATER CONSERVATION. Principles of Agricultural Hydrology. Land Leveling and Grading. Agricultural Drainage. Mechanics of Water Erosion. Terraces and Diversions. Field Practices for Erosion Control. Waterways for Erosion Control. Erosion-control Structures. Water Management Conservation, Use, and Legal Aspects. Wind Erosion and Its Control. Irrigation. Frost Control. FARMSTEAD STRUCTURES AND EQUIPMENT. Structural Requirements for Farm Buildings. Livestock Production Facilities. Heat, Air, and Moisture. Drying Farm Crops. Storage of Farm Crops. Electrical Equipment. Fruit and Vegetable Handling. Storage of Fresh Fruits and Vegetables. Service Buildings and Equipment. BASIC AGRICULTURE DATA. Livestock. Soil. Farm Climates and Solar Energy. INDEX.

General and Introductory

McCOLLY AND MARTIN—Introduction to Agricultural Engineering

By H. F. McCOLLY, Michigan State University, and J. W. MARTIN, University of Idaho. *Pub. in Agr. Engg.*

553 *pp.*, 6 *x* 9, 335 *illus.* (1955).....$8.75*c*

Explains the importance of engineering in agriculture and the relationship of agricultural engineering to agricultural science. The subject matter is divided into eight topics. Both the fundamentals and the practical aspects of these topics are fully treated.

CONTENTS—Preface. Acknowledgments. ENGINEERING IN AGRICULTURE. The Development of Agricultural Engineering. Agricultural Engineering Applications. AGRICULTURAL MECHANICS. Agricultural Mathematics. Forces and Simple Machines. Drawing and Lettering. Agricultural Construction. The Farm Shop. FARM POWER. History of Engines and the Farm Tractor. Principles of Operation of Tractor Engines. Power Measurement and Tractor Testing. Selection and Management of Tractor Power. FARM MACHINERY. Power and Machinery in Agriculture. Materials Used in Farm Machinery. Machine Elements and the Transmission of Power. Farm-machinery Applications. Selection and Management of Farm Machines. RURAL ELECTRIFICATION. Basic Electricity and Electrical Terms. Electric Service for the Farm. Using Electricity on the Farm. PROCESSING AGRICULTURAL PRODUCTS. Agricultural Processing. Crop Processing on the Farm. Food Processing. FARM STRUCTURES AND CONVENIENCES. Farm-buildings Investment and Economics. Planning the Farmstead. Farm-structure Requirements. Materials for Farm Structures. Farm Carpentry. Care and Maintenance of Farm Structures. Farm and Home Conveniences. SOIL- AND WATER-CONSERVATION ENGINEERING. Farm Surveying and Mapping. Soil-erosion Control. Land Clearing. Land Drainage. Sources of Water for Irrigation. Farm-water Measurement. Surface Methods of Irrigation. The Sprinkler Method of Irrigation. Economics of Irrigation. Index.

Farm Shop

JONES—Shopwork on the Farm

By MACK M. JONES, University of Missouri. *Rur. Act. Series.* Second Edition.

626 *pp.*, 6 *x* 9, 715 *illus.* (1955).....$6.20*s*

Correlated Text-Film Series—twelve 35mm silent filmstrips.....*each set* $32.50
each $6.00

Presents many new developments, including those due to the increased use of electric power on farms, and material on power woodworking tools, the drill press, power hack saws, and metal-working lathes. The book is organized around *activities* and deals simply and directly with tools, operations, and processes, rather than with specific jobs or projects.

CONTENTS—Planning and Equipping a Home Farm Shop. Sketching and Drawing. Woodwork and Farm Carpentry. Power Woodworking Saws. The Jointer. Painting, Finishing, and Window Glazing. Sharpening and Fitting Tools. Rope Work. Leather Work. Concrete Work. Soldering and Sheetmetal Work. Cold Metal Work. The Metalworking Lathe. Farm Blacksmithing. Pipework and Simple Plumbing. Electric Arc Welding. Oxyacetylene Welding and Cutting. Repairing and Reconditioning Machinery. Maintaining Electrical Equipment.

PARKER—Farm Welding

Arc and Oxyacetylene Welding

By MARVIN M. PARKER, Hayti Consolidated Schools, Hayti, Missouri. *Rur. Act. Series.* Third Edition.

262 *pp.*, 6 *x* 9, 179 *illus.* (1958).....$5.60*s*

Gives vocational agriculture students and farmers practical information on welding and its use on the farm. Explains basic principles while emphasizing correct welding procedures, so that the student can develop clear understanding of the welding processes with which he is working. Anticipates the difficulties that inexperienced welders meet, showing the causes and how to avoid them. Gives step-by-step directions for handling farm welding jobs. Shows how to analyze welding problems and then, by following specific directions, learn how to solve them and handle the jobs needed successfully.

CONTENTS—PART I. METALS AND WELDING. Identifying Metals. Handling Metals in Welding. PART II. ARC WELDING. Providing Arc-Welding Equipment for the Farm Shop. Operating the Arc Welder. Butt Welding Steel in Flat Position. Making Fillet Welds in Steel in Flat and Horizontal Positions. Welding in Vertical, Horizontal, and Overhead Positions. Arc Welding Cast Iron. Using Special Arc Welding Repair Techniques. Cutting Steel and Cast Iron with the Arc Welder. PART III. OXYACETYLENE WELDING AND CUTTING. Providing Oxyacetylene-Welding Equipment for the Farm Shop. Operating Oxyacetylene Welding and Cutting Equipment. Fusion Welding with the Oxyacetylene Torch. Bronze Welding. Hard-Surfacing Farm Equipment with the Oxyacetylene Torch. Cutting with the Oxyacetylene Torch. Welding Aluminum, Copper, and Brass.

Farm Power

GULVIN—Farm Engines and Tractors

By HAROLD E. GULVIN, Eastern States Farmers Exchange.

397 *pp.*, 6 *x* 9, 295 *illus.* (1953)....$7.95*c*

Easily understandable in presentation, including simplified drawings, this text provides much technical information for the student and farmer. It covers parts of engines; general terms; operations principles of 2- and 4-stroke diesel engines; carburation, lubrication, ignition; tractor history, selection, maintenance, tune-up, and operation; special sections on transmission of power by tractor, truck, and car; and complete discussions of engine performance.

CONTENTS—Preface. Engine Nomenclature. Engine Terminology. The Four-stroke-cycle, Single-cylinder and Multicylinder Engines. The Otto Two-stroke-cycle Engine. The Diesel Engine. A Comparison of Spark-ignition and Compression-ignition Engines. Engine Fuels. Fuel Systems. Lubricants. Lubrication Systems. Cooling Systems. Ignition Systems. Power Transmission and Drive Systems. Auxiliary Power Systems. Performance. Selecting a Tractor or Engine. The Tune-up. Tractor Operation. Appendixes. Abbreviations Used. Reference Aids. Index.

JONES—Farm Gas Engines and Tractors

By FRED R. JONES, Texas A & M College. *Series in Agr. Engg.* Fourth Edition.

528 *pp.*, 6 *x* 9, 252 *illus.* (1963)....$9.95*c*

Here is the fourth edition of a highly successful text on farm engines and tractors. Improvements have been made in nearly every chapter: the most significant include complete up-to-date information relative to power measurement and testing equipment, engine design, fuels and carburetion, diesel engines, ignition, clutches and transmissions, hitches and stability, hydraulic principles and mechanisms, and the economics of tractor power.

CONTENTS—Survey of Farm Power. Farm Power Sources and Adaptability. History and Development of the Internal Combustion Engine and Farm Tractor.

Types of Farm Tractors. Power and Its Measurement-fuel Consumption-engine Efficiency. Thermodynamic Principles and Applications. Engine Cycles and Efficiencies. Engine Construction and Design. Engine Cycles and Principles of Operation. Tractor Engine Types and Construction. Valves and Valve Operation. Fuels and Combustion. Fuel Supply and Carburetion Systems. Air Cleaners. Cooling and Cooling Systems. Governing and Governing Systems. Ignition Methods. Fundamentals of Electric Ignition. Magnetism and Induction. Storage Cells and Batteries. Battery Ignition Systems. Mechanical Generation of Electricity. Magneto Ignition. Diesel Engine Construction and Operation. Electric Generators. Starters. Lighting. Lubricants and Lubricating Systems.

Farm Machinery

SMITH—Farm Machinery and Equipment, 5th Ed.

By HARRIS P. SMITH, Professor Emeritus, Texas Agricultural and Mechanical College. *Pub. in Agr. Engg.*

In Press

The latest developments in farm power equipment are presented in this new edition of the standard text for agriculture students. The author discusses new methods of minimum tillage, planting, weed control, hay and forage harvesting, and describes in detail the harvesting equipment for cotton, small grain corn, and other crops. The book also provides the latest information about equipment which has proved to be economical in use and instrumental in reducing the cost of crop production.

Farm and Rural Electrification

BROWN—Farm Electrification

By ROBERT H. BROWN, University of Georgia. *Pub. in Agr. Engg.*

369 *pp.*, 6 *x* 9, 210 *illus.* (1956).....$7.95*c*

Presenting in readily usable form a vast amount of material on farm electrification, this book explains and simplifies the principles of electricity. The book is unique because rather than emphasizing theory of electricity, it stresses applications, safety features, procedures for selecting equipment and supplies, planning and installing wiring systems, modifications, and the practical utilization of electricity. The many useful tables, pictures of modern applications and electrical supplies, together with problems relating to the actual agricultural situation, will further stimulate the reader's interest in this subject.

CONTENTS—Preface. The Power-distribution Story. The Electric Bill. Electric-wiring Practices. Electricity for the Farm Residence. The Farmstead Distribution System. Wiring for Farm Buildings. Electricity for Light. Electrical Controls for Farm Use. Electricity for Heat. Farm Electric Motors. Electricity for the Water Supply. Electricity for Cooling. Special Equipment for the Electrified Farms. Appendix. Index.

Farm Structures

GRAY—Farm Service Buildings

By HAROLD E. GRAY, Lord and Burnham, Co. *Pub. in Agr. Engg.*

458 *pp.*, 6 *x* 9, *illus.* (1955).....$8.50*c*

Covers the basic requirements of farm buildings, discusses the features of materials meeting these requirements, and gives many of the basic principles of design. Practical applications of these principles and specific building needs are considered. Although the newest methods and materials of construction are presented, older and standard methods are also discussed.

CONTENTS—DEVELOPMENT AND PLANNING OF FARM BUILDINGS. Introduction. Planning Farm Service Buildings. Planning the Farmstead. MATERIALS OF CONSTRUCTION. Wood. Wood Fasteners. Concrete and Masonry Products. Miscellaneous Building Materials. STRUCTURAL REQUIREMENTS. Loads on Farm Service Buildings. Base Construction of Concrete and Masonry. The Main Frame. Floor and Ceiling Support. Roof Framing. Covering Layers. ENVIRONMENTAL CONTROL. Fundamentals Applicable to Environmental Control. Design Procedures for Environmental Control. BUILDINGS FOR HOUSING LIVESTOCK. Dairy Cattle Housing. Poultry Housing. Beef, Sheep, and Swine Housing. STORAGE BUILDINGS. Machinery Housing and Farm Shop. Grain Storage. Apple Storages. Potato Storages. Silos. REMODELING. Remodeling Farm Buildings. Appendix. Index.

Soil and Water Conservation Engineering

AYRES—Soil Erosion and Its Control

By QUINCY C. AYRES, Iowa State College. *Pub. in Agr. Engg.*

356 *pp.*, 6 *x* 9 (1936).....$8.95*c*

Brings together the data on the nature of erosion, the causes of excessive erosion, and the various ways in which excessive rates may be coped with. Over half the book is devoted to detailed directions on strip farming, tree planting and care, and on the design and construction of terraces, diversion ditches, and soil-saving dams, together with instructions on surveying instruments and their use as applied to the problem of erosion control.

CONTENTS—Introduction. Factors Affecting Rate of Erosion. Methods of Control. Rainfall and Runoff. Terrace Design. Terrace Location—Principles and Practice. Terrace Construction Methods and Machinery. Terrace Construction Costs and Maintenance. Terrace Outlets. Control of Gullies. Temporary and Semi-permanent Check Dams. Permanent or Soil-saving Dams. Special Uses of Vegetation. Soil Conservation and Land Use.

AYRES AND SCOATES—Land Drainage and Reclamation

By QUINCY C. AYRES, Iowa State College, and DANIELS SCOATES. *Pub. in Agr. Engg.* Second Edition.

496 *pp.*, 6 *x* 9, *illus.* (1939).....$9.95*c*

Covers the problems of drainage, reclamation, and surveying that arise on the average farm and which the farmer himself can well be expected to handle. After a discussion of the broad aspects of land reclamation, the text deals with land surveying, surface drainage, clearing land, subsurface drainage, and erosion control.

CONTENTS—Measuring Distances. Surveying with Steel Tape. Levels and Level Rods. Leveling. Adjusting Levels. Lines and Angles. Topographical Surveying. Computing Areas. Land Surveying. Drainage Properties of Soils. Rainfall and Run-off. Open-ditch Design. Open-ditch Location and Construction. Open-ditch Maintenance. Earth Dams and Levees. Drainage Districts. Useful Principles of Law. Explosives and Their Use. Land Clearing. Control of Soil Erosion. Terracing. Control of Gullies. Subsurface Drainage. Location of Tile Drains. Design of Tile Drains. Selection of Tile. Installation of Tile. Drain-tile Accessories. Estimating Cost of Tile Drainage. Special Methods of Drainage. APPENDIX. Practical Tile-drainage Problems. General Tables.

Business and Industrial Management

McGRAW-HILL SERIES IN MANAGEMENT

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Professor Keith Davis, Consulting Editor
Arizona State University

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Watson—A Business and Its Beliefs

J. K. LASSER'S BUSINESS MANAGEMENT HANDBOOK

SYDNEY PRERAU, Editor-in-Chief. Prepared by a Staff of Specialists. Second Edition.
842 *pp.*, 6 *x* 9 (1960) $13.50*hb*

In this handbook, 21 distinguished experts deal with the major areas of successful business management. In concise, graphic style, each authority gives you, for his specialized area, the fundamentals and methods that can lead to profitable management decisions and controlled courses of action. Here are practical pointers in the matters of setting up, organizing, controlling, and projecting basic business plans and operations, with careful attention given to tax advantages and disadvantages. Includes a wealth of figures, charts, check-lists, and other reference aids which you can use as guides in the day-to-day operation of your business. Second edition contains completely new material on the law concerning the regulation of a business and its customers; fair trade practices, anti-trust laws, retail price maintenance, etc.

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INDUSTRIAL ENGINEERING HANDBOOK

Edited by H. B. MAYNARD, President, Maynard Research Council, Inc. Prepared by a Staff of Experts. Second Edition.
1894 *pp.*, 6 *x* 9, 645 *illus.* (1963) $22.50*hb*

Extensively revised, with reports on the latest developments in the fields of electronics, operations research, and systems design. Includes new chapters on source, training, and development of industrial engineers; creating and maintaining profits through industrial engineering; electronic aids to time study; work measurement of multi-machine assignments; universal standard data; principles of inventory management, and much more.

CONTENTS—The Industrial Engineering Function. Methods. Work-Measurement Techniques. Applied Work Measurement. Predetermined-Elemental-Time Standards. Wage and Salary Plans. Control Procedures. Plant Facilities. Mathematical and Statistical Procedures. Other Aspects of Industrial Engineering.

PURCHASING HANDBOOK

Standard Reference Book on Purchasing Policies, Practices, Procedures, Contracts and Forms
Edited by GEORGE W. ALJIAN, California and Hawaiian Sugar Refining Corp. Prepared by a Staff of Specialists.
1388 *pp.*, 6 *x* 9, 171 *illus.* (1958).....$20.00*hb*

A thorough, authoritative handbook of purchasing department organization, management, and procedure. Everything is covered, by outstanding experts in each phase of purchasing, that will help purchasing men do the best job of procuring the right commodity at the right price and having it in the right place at the right time. A wealth of facts, principles, methods and data and illustrative material is given on purchasing routine—selecting sources of supply, rating vendors, buying economically, inventory control, contracts and forms, etc. Serves the needs not only of business and industry, but of governmental, institutional, and other non-profit organizations in its thorough coverage of legal factors, ethical practices, selection and training of personnel, evaluation of buyer performance, and other topics.

Principles of Management

ANSHEN AND BACH—Management and Corporations 1985
Edited by MELVIN ANSHEN and GEORGE LELAND BACH, Carnegie Institute of Technology.
253 *pp.*, 5⅜ *x* 8 (1960).....$6.50*t*

Fifteen distinguished leaders from business, universities, law, government, and religion discuss the problems which will face the modern corporation within the next twenty-five years. Supplying imaginative answers to the questions raised are such noted individuals as A. A. Berle, Theodore Houser, Kenneth Kramer, David Lilienthal, Leland Hazard, and Frederick Hayek.

CHAMBERLAIN—The Firm
Micro-Economic Planning and Action
By NEIL W. CHAMBERLAIN, Yale University.
448 *pp.*, 6 *x* 9, 12 *illus.* (1962).....$7.95*n*

Approaches the planning function in the modern corporation by underscoring 1) the importance of the process to the firm and the economy; and 2) the broad outlines of the process and the relationship of the parts to the whole. The *budget* (expressive of anticipations and intentions) is emphasized as an analytical concept equally useful to the student of economics and administration, as it proved to be to management. This book discusses the three major accounts of business budgeting: the income statement; balance sheet; and flow of funds. It describes how the firm relates experience to plan (budget) for the future, as well as using its plans (budgets) to evaluate its experience, and by indicating the way in which the economist's traditional preoccupations with product, cost, and price fit into this overall framework. The text is descriptive of the *total* planning process in business firms.

CONTENTS—Introduction: The Subject. The General Setting. Balance Sheet and Budget. Time and the Budget. Objectives and Targets. Secondary Goals. The Planning Process: Introduction. The Principal Source of Funds: Sales. The Principal Use of Funds: Costs of Production and Distribution. The Use of Price in Planning. Fitting the Pieces Together: The Projected Operating Statement. The Capital Budget. Dividend Policy. The Projected Balance Sheet. The Projected Flow of Funds. The Corporate Plan. Corporate Action. Budgets and Organization. Standards of Performance. Summary and Conclusions.

KAPPEL—Vitality in a Business Enterprise
By FREDERICK R. KAPPEL, American Telephone and Telegraph Company. *McKinsey Found. Lect. Series,* Sponsored by the Graduate School of Business, Columbia University.
102 *pp.*, 5⅜ *x* 8 (1960).....$4.95*tL*

The President of American Telephone and Telegraph Company sets forth practical principles of managing a business successfully for the long run in this book. With penetrating insight he pinpoints forces of decay that can undermine a currently successful enterprise . . . suggests how to deal with them . . . and shows why management must set goals that stimulate people to strive beyond the level of present abilities. Mr. Kappel explores the concept of business vitality, and reveals the actions and conditions that bring it about. He tells what a manager must do to nourish vitality and attain a strong, creative, responsive organization that will endure.

CONTENTS—A Concept of Vitality. Goals That Build the Future. The Spark of Individuality.

KOONTZ AND O'DONNELL—Principles of Management, 3rd Ed.
By HAROLD D. KOONTZ and CYRIL J. O'DONNELL, both of the University of California, Los Angeles. *Series in Mgmt.*
In Press

The greatly improved Third Edition retains the excellent conceptual framework of the previous editions. It sets forth a theory of the managing process, viewed operationally, which explains what managers do and the principles which should guide them if they are to be efficient and effective. It explains the theory of the managing process which defines the functions of all managers, regardless of the type of enterprise or the level of activity within an organization; consequently the theory is universally applicable. The basic approach is operational. Managing activities are viewed as "ongoing processes" which are required of every manager as he strives to achieve enterprise objectives and the objectives of the operating unit of which he is head. Thus, the theory becomes a guide for every manager.

CONTENTS—Making Sense of Management Theory. Approaching a Theory of Management. Terms, Methods, and Contributions: Can They Be Synthesized? The Practicing Manager and Management Theory and Research. The Role of the University in Management Theory and Research. Management Theory and Research: Some Conclusions.

KOONTZ AND O'DONNELL—Principios de Direccion de Empresa
753 *pp.*, 6 *x* 9, 48 *illus.* (1961).....$6.40*r**

* *Not for sale in Spain and possessions.*

KOONTZ AND O'DONNELL—Readings in Management

By HAROLD KOONTZ and CYRIL O'DONNELL, both University of California, Los Angeles. *Series in Mgmt.*

523 *pp.*, 6 *x* 9 (1959)..*Cloth Edition* $6.50*c*
Soft-cover Edition $4.95*c*

A comprehensive and searching collection of significant writings on general management, this text contains much of the best thought and experience in the field. The material has been carefully selected from the widely diffuse sources of writings in management theory and policy and from books and journals devoted to the social sciences, in business and management association publications, and in journals concerned with functional activities in business. In general, the selected articles follow the original version as closely as possible. The selections are grouped in a manner easily identified with the organization of the authors' volume *Principles of Management.*

CONTENTS—Preface. THE BASIS OF A THEORY OF MANAGEMENT. ORGANIZATION. The Span of Management. Departmentation. Decentralization of Authority. Line and Staff. Committees. STAFFING. DIRECTION. PLANNING. Objectives. Purpose and Nature of Planning. Forecasting for Planning. Policy Formulation. Decision Making. Operations Research and Decision Making. Making Plans Operational. CONTROL. The Control Process. Devices of Control. Over-all Control of Performance. Management Audits.

HARBISON AND MYERS—Management in the Industrial World

An International Analysis

By FREDERICK HARBISON, Princeton University, and CHARLES A. MYERS, Massachusetts Institute of Technology. *Series in Mgmt.*

391 *pp.*, 6 *x* 9 (1959).....$7.50*c*

A comparative analysis of international management related to economic development, this book is one of the first treatments in this field. The authors stress the emergence of management as a resource, a system of authority, and a class in a number of countries at different stages of industrialization. Essays on management in foreign countries are included.

CONTENTS—Preface. AN INTERNATIONAL CONCEPT OF MANAGEMENT. Organization and Management. Management as an Economic Resource. Management as a System of Authority. Management as a Class. The Development of Managerial Resources. The Logic of Management Development: A Summary. COMPARATIVE SYSTEMS OF MANAGEMENT. Management in India. Management in Modern Egypt. Management in Chile. Management in Israel. Management in France. Management in Italy. Management in Japan. Management in Germany. Management in Sweden. Management in Great Britain. Management in the Soviet Union. American Management in Perspective. The Management of Foreign Firms in Economically Underdeveloped Countries. Index.

HARBISON AND MYERS—La Direccion de Empresa en el Mundo Industrial

450 *pp.*, 6 *x* 9 (1962).....$7.50*r**

** Not for sale in Spain and possessions.*

ALLEN—Management and Organization

By LOUIS A. ALLEN, Louis A. Allen Associates. *Series in Mgmt.*

338 *pp.*, 6 *x* 9, 35 *illus.* (1958).....$7.00*i*

Describes in step-by-step detail methods and techniques by which companies may improve the quality of their professional management and tailor their organizations to meet growing competition. Describes new and dynamic concepts which are emerging in the profession of management. It presents a picture of an integrated science of management, made up of separate and identifiable skills, of which organization is a vital element. Based on one of the most comprehensive studies of business enterprise ever undertaken.

CONTENTS—The Nature of Management. A Unified Concept of Management. What Is Organization? Designing the Organization Structure. Divisionalization. The Process of Delegation. Better Methods of Delegation. Centralization and Decentralization. Effective Decentralization. Staff and Line Relationships. Specialized Staff. Top Management Organization. Changing the Organization. Organization Analysis. The Dynamics of Change.

ANDERSON—Management Practices

By RICHARD C. ANDERSON, Lockheed Missiles and Space Division.

302 *pp.*, 6 *x* 9, *illus.* (1960).....$7.95*t*

Presents tested techniques for applying management principles to the vital day-to-day contacts between human beings and business firms. The book covers such important aspects as planning and control, organization, staffing, executing, and appraising. It describes in detail the methods and processes of successful management based on the consideration of human well-being, and the responsibilities of business enterprises toward both their own personnel and also to the people they serve.

BLOUGH—Free Man and the Corporation

By ROGER M. BLOUGH, United States Steel Corporation. *McKinsey Found. Lect. Series.*

126 *pp.*, 5⅜ *x* 8.....$4.95*tL*

America's top steel executive explains the relationships between the individual and the corporation—telling what a corporation is, why it exists, and how it operates. Discusses labor unions and competition, a corporation's influence on its employees, and its role in community betterment. Describing a corporation as primarily people voluntarily joined together to serve other individuals or groups, the author calls for a new look at the strength of organized workers and better understanding by government of corporations' taxes and other problems. The book presents the views of "Mr. Big of Big Steel" on how the corporation enhances the free growth of creativity and personality. Management techniques and philosophy at U. S. Steel are shown, and the book also discusses inflation, administered prices, profits, our society's affluence, production, price controls, the importance of business size, and the results of foreign competition.

CONTENTS—Voluntary Man—His Way to Economic Growth. Productive Groups in a Free Society. Productive Groups and Competition. Size in the Productive Groups. How a Production Group Operates. Management Techniques in United States Steel. The Heart of the Matter. Creative Man—His Work and the Union. The Individual and His Group. The Search for a Better Way. The Individual and the Union. The Multiple-Company Union and the Competitive Principle. The Role of the Union in the Future. Citizen Man—His Group and His Government. Individuals, Groups, and Government. Economic Growth and Group Competition. Inflation. Business Groups and Positive Government Programs. Citizen Man and His Role Toward Government. The Corporate Group and Its Social Response. Conclusion.

DALE—The Great Organizers

Theory and Practice of Organization

By ERNEST DALE, Cornell University.

277 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960)....$6.50*t*

Presents a series of carefully researched and fascinating profiles of management genius that includes Alfred P. Sloan, Donald Brown, and John Lee Pratt of General Motors; A. W. Robertson, Ralph Kelley, and Frank D. Newberry of Westinghouse Electric Corporation; Pierre S. du Pont and Irenee du Pont; and

Ernest Tener Weir of National Steel Corporation. Examines the methods and plans used by these and other successful men—to help those who are confronted with a need to reorganize existing institutions.

DALE AND URWICK—Staff in Organization
By ERNEST DALE, Associate Professor, Graduate School of Business and Public Administration, Cornell University, and LYNDALL F. URWICK, Urwick, Orr & Partners, Ltd., Management Consultants.
233 *pp.*, 5⅜ *x* 8, 14 *illus.* (1960).....$6.75*t*
Explains how business executives can profitably apply the principles and experience of staff in military organizations. Clarifies the distinction between special, personal, and general staff officers as employed in armies and other combat services; examines the problems involved in employing persons as assistants to high executives in business; and makes useful suggestions on how the effectiveness of such positions can be improved. The entire concept of the assistant in business is illuminated and strengthened for better organization and reduced executive work load.
CONTENTS—The Load on Top Management. Effect of Overload on Executive Health. How Executives Spend Their Time. Methods of Reducing Executive Burdens. The Military Use of Staff. Comparison of Military and Business Staffs. The U.S. Presidency and the Staff System. The Assistant in Business—A Composite Profile. A Nice Derangement of Epitaphs. Case Studies of Unsuccessful Assistants-to. The Practical Use of General Staff Positions in Business. APPENDIXES. Some Definitions and/or Descriptions of Staff in Typical Books on Management. Detailed Attention Devoted to the Drafting, Arrangement, and Transmission of Communication and the Standardization of Methods in the British Army. Comparative Glossary of U.S. and British Military Terms. The Doctrine of Completed Staff Work. Work Description Sheet Analyzed by Functions of Leadership. Job Description. Functions of the Control Section of the Koppers Company.

FENN—Management in a Rapidly Changing Economy
Edited by DAN H. FENN, Jr., *Harvard Business Review;* Harvard University Graduate School of Business Administration.
339 *pp.*, 5⅝ *x* 8⅜, 11 *illus.* (1958)..$6.50*iL*
Gives a wide-angled look at the business risks and potentials in the many economic, social, technological, and marketing changes rapidly changing the face of the American economic scene. Based on the speeches and discussions at the 27th National Business Conference of the Harvard Business School, the book is a survey in depth by 41 top-tier management experts. Takes up Automation, Population Increases and Shifts, Motivational Research, New Materials, and other powerful forces that affect the management of a business.
CONTENTS—Social Changes—What They Mean to Management. Recent Economic Changes and Their Implications. Technological Change—What It Will Mean to Management. A Look into the Future of Marketing. Why Population and Income Changes will Be Important in Future Strategy. Labor Skills, Expectations, and Attitudes. Financing Investment in a Larger Economy. The Long-term Expansion of Strategic Industries. Consumer Motivation in a Large Market. Planning for Automation. The Growth Problems of Smaller Businesses. Long-range Planning for Economic Expansion. External Communication in a Mass Economy. Creativity and Imagination: Their Meaning to Management. Career Planning and Self-development.

FENN—Management's Mission in a New Society
By DAN H. FENN, Jr., Harvard Graduate School of Business Administration; *Harvard Business Review.*
345 *pp.*, 5⅜ *x* 8⅜ (1959).....$6.50*iL*
In this book are ideas to help you shape a better company image and a new business climate—shown in constructive suggestions brought out at the 28th Annual Harvard Business Conference. In what way is business losing its influence to politicians, intellectuals, and labor? How is your company affected? What can and should you be doing about it? Such men as John Burns, President of RCA; Donald David of the Ford Foundation; Ervin Canham, Editor, *Christian Science Monitor;* Charles Malik, President, General Assembly of the United Nations; Arnold Toynbee; and Vice President Nixon—in all, more than 30 business leaders and influential commentators—give their ideas on this situation, in this book.
CONTENTS—MANDATE FOR A MISSION. How Did We Get This Way—and Where Are We Going? The Businessman and National Security. The Businessman of the Future. America's Mission in a New Society. The New American Capitalism. The New Relationship of Business to Society. For a Revised Sense of Values. CLOSER LOOK AT THE BUSINESSMAN'S ROLE. Overseas Business, Economic Development, and the Cold War. Marketing: The Twin Dangers of Success and Failure. Creativity: What Lessons Can We Learn from the Scientists? Feedback: Putting Public Relations in Reverse. The New Challenge: Managing the Educated. Personal Values and Business Decisions. Thinking Ahead in Economic Growth and Stability. Converting Farm Problems into Business Opportunities. How Effectively Are Management and Unions Living Together? New Directions in Human Relations. The Role of Management in Inflation and Recession. Power and Morality in Business. Small Business in Our New Society. A CASE STUDY IN BUSINESS RESPONSIBILITY. Business and Its Responsibility to National Defense.

FINLAY, SARTAIN, AND TATE—Human Behavior in Industry
By WILLIAM W. FINLAY, Antioch College, A. Q. SARTAIN and WILLIS M. TATE, Southern Methodist University. *Indsl. Orgn. & Mgmt. Series.*
247 *pp.*, 6 *x* 9 (1954).....$6.75*i*
Gives a sound and practical analysis of human behavior as a key to better handling of personnel in industry. Discusses, with illustrations drawn from life, the way people behave as individuals and as members of various group situations. It points the way to more realistic and rational thinking at all management and supervisory levels.
CONTENTS—A Manager and His Problems. The Queer Things We Do. Some Basic Motives of Workers. Working with Others. The Mid-century American Scene. The Changing Scene in Labor Relations. The Manager and the Public. Human Relations and Organization. Authority. Responsibility, and People. Communication, a Major Function of Management. The Uses and Misuse of Authority. Wages and Incentives. Dealing with the Union. Selection and Evaluation of Employees. Employee Counseling. Problems of Discipline. Making Work Attractive and Significant. Gaining the Interest and Cooperation of People. Attitudes and Morale. Ten Years Later.

GREENEWALT—The Uncommon Man
The Individual in the Organization
By CRAWFORD H. GREENEWALT, E. I. du Pont de Nemours & Co., Inc. *McKinsey Found. Lect. Series.*
142 *pp.*, 5⅜ *x* 8 (1959).....$4.95*tL*
*McG-H Paperbacks Ed.**
DuPont's tenth president here reveals the management principles and methods which have guided the world's greatest chemical company to its present peak of success. The book emphasizes the need in business today for "rugged individualists" unwilling to submerge themselves in conformity. It describes the kind of company atmosphere which encourages individual achievement, and offers provocative

ideas on executive training and evaluation; political science; taxation; scientific research in business; "corporate jungle" fiction; etc.
CONTENTS—Atmosphere for Achievement. The Nature of Organizations. Incentives and Rewards. Freedom, Individuality, and Conformity. The Executive Function. Business Stereotypes: Old and New. The Great American Paradox. The Owner's Eye. The Vanishing Philanthropist. The Outlook for Science.

** Available only through your local bookstore.*

HELD—The Technique for Proper Giving
By WALTER J. HELD, formerly Standard Oil Company of California.
232 *pp.*, 6 *x* 9 (1959).....$6.50*t*
An authoritative book that shows how firms of every size can set up and administer a time-saving and realistic donations program. Gives expert help on every phase of a donations program: setting up policy and procedures for handling appeals . . . determining budgets for contributions . . . delegating decision-making responsibility to various members of the staff exposed to such appeals . . . and making sure that every dollar contributed represents the wisest possible investment in building and maintaining goodwill.
CONTENTS—PART ONE. A LOOK AT THE FUND RAISER. The Artful Art of Raising Money. Are Businessmen Suckers? What Should a Businessman Take On? How to Raise a Million Bucks! PART TWO. THE TECHNIQUE OF THE GIVER. How to Decide What to Support. How to Determine What to Give. The Mechanics of Giving. Educating the Executive. Living with a Policy. What Giving Should Come First? PART THREE. PATTERNS IN GIVING. Public Utilities. Retailing. Petroleum. Banking. Railroads. Airlines. Corporate Foundations. Manufacturing.

HOUSER—Big Business and Human Values
By THEODORE V. HOUSER, Sears, Roebuck and Co. *McKinsey Found. Lect. Series.*
103 *pp.*, 5⅜ *x* 8 (1957).....$4.95*tL*
A study of actual "big business" experiences in blending business objectives and high regard for people as humans in its operations, and achieving a high measure of prominence and prosperity. Gives an intimate and striking account of policies and practices followed by Sears for 70 years that have paid out in its relations within the company, with its various publics, and in its operations abroad. Describes Sears' reliance on its ability to develop people and how it has implemented this idea, its humanized approach to relations with customers, suppliers, the community, and other publics, and how it preserves the human touch in dealing with national temperaments and characteristics met in Latin America.
CONTENTS—Big Business and the Individual. Big Business and Its Publics. Big Business Abroad.

JOHNSON, KAST, ROSENZWEIG—The Theory and Management of Systems
By RICHARD A. JOHNSON, FREMONT E. KAST, and JAMES E. ROSENZWEIG, all of the University of Washington. *Series in Mgmt.*
368 *pp.*, 6 *x* 9, *illus.* (1963).....$8.50*c*
Book proposes a philosophy in the concept of managing by system, and relates systems theory to business and industry within a general framework. Part I is devoted to the development of a theoretical framework for systems management. Part II illustrates and analyzes the concepts and theories developed in Part I and carefully explains many of the newer applications and major innovations in the systems concept. Part III discusses design and implementation of systems and includes a review of applicable techniques such as mathematical programming, simulation, and network analysis. Part IV traces the evolution of the systems concept and evaluates the role of systems management in the future.
CONTENTS—Preface. Systems Concepts and Management. Applications. Implementation. The Future. Bibliography. Index.

KAST AND ROSENZWEIG—Science, Technology, and Management
Edited by FREMONT E. KAST and JAMES E. ROSENZWEIG, both of Univ. of Washington.
368 *pp.*, 6 *x* 9, *illus.*.....$7.95*i*
Contains papers presented at the National Advanced-Technology Conference where problems of managing large and complex advanced-technology programs were discussed from their inception to the operation of the end products. This book analyzes managerial problems unique to these programs, shows the progress made to date, and outlines the areas that require further improvement. Discusses our ballistic missile programs, the Navy's Polaris program, the world-wide Mercury communications network, and our manned flight to the moon.
CONTENTS—Scope and Importance. Senator Warren G. Magnuson. Background and Issues. Fremont E. Kast. James E. Rosenzweig. Leslie R. Groves. Edward Teller Harold Brown. Charles J. Hitch. John R. Pierce. Army Programs. Dwight E. Beach. F. S. Besson, Jr. August Schomburg. J. B. Medaris. T. F. Morrow. Navy Programs. W. F. Raborn. Stanley W. Burriss. William B. McLean. Air Force Programs. Bernard A. Schriever. Simon Ramo. Charles S. Ames. J. H. Sidebottom T. A. Wilson. NASA Programs. Wernher von Braun. D. Brainerd Holmes. R. M. Goetchius. Hilliard Paige. Summary and Implications for the Future.

KEITH AND GUBELLINI—Business Management
By LYMAN A. KEITH and CARLO E. GUBELLINI, Northeastern University. *Series in Mgmt.*
463 *pp.*, 6 *x* 9, 60 *illus.* (1958).....$7.50*c*
Provides an introduction to the broad program of business firm development. The presentation is evolutionary—not from the point of small to large size enterprise, but in terms of successive stages of general and specific development of a firm. Since all business activity relates either to a product or a service, this text describes the evolution of a business enterprise with the product or service as the central theme. It treats the many functional areas of business activity and presents them in a logical manner and orderly sequence that is readily understandable. Review and discussion questions are included for each chapter.
CONTENTS—Preface. Introduction. PART I. BASIC PLANNING. The Evolution of a Business Enterprise. Basic Market Considerations. Basic Product Considerations. Product Research. Planning the Nature and Extent of Production. PART II. PLANNING FOR PHYSICAL FACILITIES. Location of the Enterprise. Housing the Enterprise. Layout Planning and Material Handling. Layout: Criteria and Evaluations. PART III. MANAGEMENT OF MANPOWER. Personnel Management. Personnel Selection and Training. Personnel: Evaluation Techniques. Manpower Costs. Union-Management Relations. Government Regulation in Personnel Administration. PART IV. PRODUCTION. Purchasing. Inventory Control. Bases for Planning Production. Production Planning and Control. PART V. SELLING AND FINANCING. Building the Selling Organization. Prices and Terms of Sale. Costs and Budgets. Financing and Organization. PART VI. OWNERSHIP AND DEVELOPMENT. Types of Business Ownership. The Organizational Structure. Basic Organizational Features. Measuring and Evaluating Performance. The Development of Business Size. The Government and Business. Managerial Roles and Their Relationships.

GRIMSHAW—Problems of the Independent Businessman
By AUSTIN GRIMSHAW, University of Washington.

430 *pp.*, 6 *x* 9 (1955).....$6.95*c*

Containing twenty-five comprehensive cases, plus some supporting statistical material, this book describes the major policy problems actually faced by owner-managers of small businesses in order to encourage the reader to think his way through to policy recommendations consistent with the facts presented. Each case consists of a history of the firm from inception; a biographical sketch of each owner-operator involved; financial statements covering all or at least the most recent years of operation; and one or more definitely stated or rather obvious policy problems to be decided.

CONTENTS—THE PLEA FOR SMALL BUSINESS CASES. Retail Trade. Wholesale Trade. Service Industries. Manufacturing. Mining and Quarrying. Contract Construction, Transportation, Communication, and Other Public Utilities. Finance, Insurance, and Real Estate. BACKGROUND STATISTICS. General Business Indicators, United States, 1935–1953. The Business Population. Business Failures. Financial Ratios for 70 Lines of Business Activity.

LIKERT—New Patterns of Management

By RENSIS LIKERT, The University of Michigan.

illus. (1961).....$6.95*c*

This volume is intended for persons concerned with the problems of organizing human resources and activity and is written especially for those who are actively engaged in management and supervision and for students of administration and organization. The focus is largely on the problems of business enterprises. The book presents a newer theory of organization based on the management principles and practices of managers who are achieving the best results in American business and government. It draws also upon research done in voluntary organizations.

CONTENTS—Preface. Introduction. Leadership and Organizational Performance. Group Processes and Organizational Performance. Communication, Influence, and Organizational Performance. The Effect of Measurements on Management Practices. Some General Trends. Effective Supervision: An Adaptive and Relative Process. An Integrating Principle and An Overview. Some Empirical Tests of the Newer Theory. Voluntary Organizations. The Nature of Highly Effective Groups. The Interaction-Influence System. The Function of Measurements. A Comparative View of Organizations. Looking to the Future.

MAYNARD—Top Management Handbook

Edited by H. B. MAYNARD, H. B. Maynard & Co., Inc., Management Consultants and Maynard Research Council, Inc.

1000 *pp.*, 6 *x* 9, 55 *illus.* (1960)....$21.00*hb*

Covers management at all levels as it is practiced in the U.S. today, outlining the actual elements and thinking processes involved for successful managing. Treats sales, production, personnel, marketing, financing, research and development, and more, from both the president's and the vice-president's or department head's point of view. Whether it's a question of management's responsibility to the community, government, and higher education, or its stake in the stock market . . . whether it's to check best methods for directing company expansion, building a top management team, or lightening the executive load . . . this handbook gives you the facts you need. Represents the knowledge and experience of sixty leading businessmen—from senior chairmen and presidents of large, well-known companies, to heads of medium-size and small companies.

LIST OF SECTIONS—THE MANAGING FUNCTION. MANAGEMENT BY OBJECTIVES. MANAGING PEOPLE. MEASUREMENT AND CONTROL. MANAGING THE FUTURE. ACTIVITY AREA MANAGEMENT. OTHER ASPECTS OF TOP MANAGEMENT.

MARROW—Making Management Human

Tested Methods of Applying the Findings of Psychology to Everyday Problems of People Working Together

By ALFRED J. MARROW, Harwood Manufacturing Company.

241 *pp.*, 6 *x* 9, *illus.* (1957).....$6.50*t*

A guide to the use of psychology in observing and appraising people in industry, their nature, and their motives, and in solving problems of their happiness and productivity on the job. Draws on author's 20 years' front-line experience to show how people feel and why they behave as they do and how to create a work climate that satisfies the needs of the worker.

MERRIHUE—Managing by Communication

By W. V. MERRIHUE, General Electric Company.

306 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960).....$7.75*i*

A comprehensive treatment of a vital aspect of the management process today, this book is designed to help managers at all levels—from first-line supervision to chief executives—better understand how to get work performed through people. Particular emphasis has been placed on the use of communication in managing employee, community, and union relations work. This book will be of value to institutional and governmental administrators, as well as business leaders.

SAYLES—Individualism and Big Business

By LEONARD R. SAYLES, Columbia Univ.

200 *pp.*, 6 *x* 9 (1963).....$6.95*t*

Provides a realistic and systematic view of the internal functioning of large organizations and the relationship of the individual employee or manager to the total institution. The book brings together the work of anthropologists, public administrators, physicians, sociologists, economists, and specialists in the field of business administration.

CONTENTS—WHAT ARE LARGE ORGANIZATIONS LIKE? Dinosaurs and Personal Freedom. Organizations As Systems of Human Relations. Changing Employment Relationships. Unlikely Sources of Initiative and Creativity. The Manipulation Problem. WHAT ARE EMPLOYEES LIKE? Do Organizations Change People? The Personality-vs.-Organization Theory. What People Want from Their Jobs: Impact of United States Culture. PERSISTING CHALLENGES TO THE LARGE ORGANIZATION. Identifying and Rewarding the Talented Individual. Physical Health, Mental Health, and the Corporate Environment. When the Psychiatrist May Not Help. The Use and Misuse of Creative People and Ideas. Case Studies of Three Companies. Defining Work in Organization Terms. Structural and Administrative Innovations That Motivate People. Conclusion: The Organization Man: How Real a Problem?

SCHLEH—Management by Results

The Dynamics of Profitable Management

By EDWARD C. SCHLEH, Schleh Associates, Inc.

276 *pp.*, 5⅝ *x* 8, 9 *illus.* (1961).....$6.95*i*

Principles that lead to more successful operation in management situations are presented in this book. It takes the view that managers are supposed to produce results rather than merely go through certain motions as the typical job description would imply . . . offering original material on goal setting, accountability, and delegation.

SILK—The Research Revolution

By LEONARD S. SILK, *Business Week.*

244 *pp.*, 5⅜ *x* 8 (1960).....$5.95*t*

*McG-H Paperbacks Ed.**

Provides a deep insight into the impact of modern technological innovations and scientific advances on our economic growth. Clearly describes how technical advances are changing American society, the structure of industry, and the nature of the labor force. Considered, too, is this technological force as a critical element in the international balance of power. The book gives a provocative account of fundamental changes that are taking place in research, explaining the present and future implications on national economic policy and on business policy. Stressed is the regular investment that U.S. industry is making in knowledge, and results of this practice on progress. In addition, the book shows the way our present American political-economic-industrial system is working to solve major problems of growth and survival.

CONTENTS—The Need to Grow. What Is Growth? Why the Confusion? The Forces of Growth. The Case of Transistors. The General Shortage of Brain Power. Can We Get Balanced Growth? Why Research Spending Soars. War, Peace, and the Research Revolution. A New Way to Grow. A Program for Growth. The Outlook for Expenditures on Research and Development During the Next Decade.

** Available only through your local bookstore.*

SILK—Forecasting Business Trends

By LEONARD S. SILK, *Business Week Magazine.*

148 *pp.*, 5 5/16 *x* 8 (1956–1963)

McG-H Paperbacks Ed. $2.25*pb**

Business forecasting is the analysis of statistical data and other economic, political and market information for the purpose of reducing risks involved in business decisions and long-range plans. Both a theoretical study and a practical book for economists and businessmen.

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Houser—Big Business and Human Values
Kappel—Vitality in a Business Enterprise
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Bursk and Fenn—Planning the Future Strategy of Your Business
Fenn—Management Guide to Overseas Operations
Fenn—Management in a Rapidly Changing Economy
Fenn—Management's Mission in a New Society
Fenn—Business Responsibility in Action
Fenn—Managing America's Economic Explosion
Ewing and Fenn—Incentives for Executives

Business Policy

EWING AND FENN—Incentives for Executives

Edited by DAVID W. EWING and DAN H. FENN, JR., Harvard University.

224 *pp.*, 5⅜ *x* 8⅜ (1962).....$5.95*iL*

Covers incentives from the standpoint of their purposes, what varieties are effective, what problems come up in applying them, and their implications for individual behavior and corporate administration. Based on the 31st National Business Conference of the Harvard Business School, it brings you the authoritative views of 11 recognized experts. Offers many case examples, and discusses both financial and intangible incentives, their purposes, advantages and disadvantages, and effective application. Gives an insight into the subtleties and complexities of incentives as a guide to their implications for managers and key people in various areas as well as for corporations. Fully covers organization structure, administrative techniques, salaries, stock options, and many other factors. Stresses the importance of recognizing the great diversity of people, motives, and needs in an organization. Also analyzes and discusses approaches that motivate scientists and engineers in the same manner as managers; techniques of employing the stock option to obtain a more productive management team; plans to counteract the tendency toward conformity; and elements of a voluntary code of ethics for professional managers.

CONTENTS—Introduction, Stanley F. Teele. Incentives for Professional Managers and Entrepreneurs, Edmund P. Learned. Incentives for Innovators, Theodore Levitt and Edward C. Bursk. Incentives for Scientists and Highly Trained Staff Specialists, Charles D. Orth, III. Business Ethics—Incentives or Disincentives?, Robert W. Austin. The Value of Stock Options, Thomas M. Ware. Mergers and Incentives, Myles L. Mace. Role of Incentives in the Development of Texas Instruments Incorporated, P. E. Haggerty. Incentives That Drive Soviet Managers, Allen W. Dulles. Self-motivation—the Most Important Intangible, James A. Linen. Staying Alive under the Incentive System, Dana L. Farnsworth.

FOLSOM—Executive Decision Making In Business and Government

By MARION B. FOLSOM, Director, Eastman Kodak Company, and former Secretary of Health, Education, and Welfare. *McKinsey Found. Lect. Series.* Sponsored by the Graduate School of Business, Columbia University.

137 *pp.*, 5⅜ *x* 8 (1962).....$4.95*iL*

With fresh and revealing insight, Mr. Folsom describes the atmosphere and conditions that bring about sound management decisions in industry and government today. By clearly specifying the functions and uses of top-management staff and various staff departments, he set up an overall plan you can quickly adapt to meet the particular needs of your organization. Here are proven techniques that executives in all sizes and types of companies can use to facilitate their decision making operations. Of unique interest to top executives is the enlightening comparison the author presents between present-day business and government staffs. You are shown, for example, the functions, activities, organization methods, and decision-making processes he personally followed as Cabinet Secretary. This book contains a wealth of vital facts and suggestions drawn from both proven business concepts and procedures and the best experience in government.

CONTENTS—Decision Making in a Business Organization. Role of Staff Units in a Business Organization. Policy Formation in the Executive Branch of the Federal Government. Decision Making in a Cabinet Department. Decision Making in a Congressional Committee. Problems in Building a Government Staff. The Broadening Scope of Business Responsibilities.

LINDSAY—New Techniques for Management Decision Making

By FRANKLIN A. LINDSAY, Itek Corporation.

185 *pp.*, 5 5/16 *x* 8 (1958–1963)

McG-H Paperbacks Ed. $2.65*pb**

Management problems are being solved by new analytical methods developed by the sciences; but the language employed by the scientists—for the businessman—is obtuse. This book is designed as a bridge between the specialists and management.

** Available only through your local bookstore.*

McNICHOLS—Policy Making and Executive Action

By THOMAS J. MCNICHOLS, Northwestern Univ. *Series in Mgmt.* Second Edition.

729 *pp.*, 6 *x* 9, 100 *illus.* (1963).....$8.95*c*

This revised and updated edition once again utilizes the case method to delineate the job of the chief executive and the top management group responsible for the direction and guidance of the business entity. It now includes new international cases and 12 new cases. Five popular cases are thoroughly revised and brought up to date. The 36 cases are all derived from actual business situations of many prominent corporations, ranging from the small business to the very large corporate enterprise. Represented are over 25 different businesses—light industry, heavy industry, merchandising: department store and mail order, banking, clothing manufacturer, book publisher, wall paper manufacturer, etc. The author's effective use of these case materials allows him to present the full scope of the complex problems and opportunities encountered by top management in decision making and basic daily administration.

CONTENTS—Top Management in Perspective. Analysis of the Situation. The Decision-making Process. Implementation through Organization and Control. Basic Day-to-Day Administration. Reappraising and Recharting Courses of Action.

PATTON—Men, Money and Motivation

Executive Compensation as an Instrument of Leadership

By ARCH PATTON, McKinsey & Company.

232 *pp.*, 5⅜ *x* 8 (1961).....$7.50*t*

*McG-H Paperbacks Ed.**

One of the nation's most widely recognized authorities on executive compensation administration presents in this book a philosophy that has proved eminently successful in motivating executive talent. In clear, practical, and incisive language, Arch Patton explores the many complex aspects of compensation at the executive level, focusing special attention on the factors that make for success or failure in the use of financial motivations. Compensation administration is approached not only from the point of view of individual performance, but also from the standpoint of broad company objectives and a competitive environment. What is an executive worth? How effective are the various incentive plans? Which plan best fits a company's needs? How should the compensation structure be priced? What effects do salaries and bonuses have on executive motivation? These and similar questions are discussed by Mr. Patton in this thoughtful, penetrating study. The author deeply probes the motivations of executives, including such non-financial spurs as title, status, discipline, and challenge. He describes the industry-wide compensation surveys that have cast new light on the previously "top-secret" area of executive rewards.

CONTENTS—The Evolution of an Instrument of Leadership. The Motivations of an Executive. What Is an Executive Worth? Theory of the Compensation Structure. Pricing the Compensation Structure. Administering the Salary Program. Promotion—The Greatest Incentive. Some Questions about Incentive Plans. Administering the Executive Incentive Program. The Growing Importance of Fringe Benefits. Performance Appraisal Improves Compensation Administration. A Demanding Environment: The Secret Weapon of Compensation Administration.

** McG-H Paperbacks Ed. available under the title of* WHAT IS AN EXECUTIVE WORTH? *Available only through your local bookstore.*

PAYNE—Planning for Company Growth

By BRUCE PAYNE, Bruce Payne & Associates.

327 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$8.50*i*

Drawing on his unique experience as a pioneer in the field of corporate long-range planning, the author shows how long-range (and shorter range) planning can improve the growth potential of any company that goes about it in the right way. In step-by-step detail he describes what LRP really is, how it is introduced most effectively, and how it is made to work over the long run. The book is replete with concrete, how-to-do-it information on every phase of LRP. Illustrations include specific questionnaires and charts used by different companies to elicit factual data for their planning.

PRERAU—J. K. Lasser's Executives' Guide to Business Procedures

Checklists for Successful Management

Edited by SYDNEY PRERAU, Director, J. K. LASSER Tax Institute.

255 *pp.*, 5⅜ *x* 8⅜ (1960).....$6.50*i*

Shows in checklist fashion what to do, what not to do, and what to look out for when handling business problems or transactions. Clearly outlines the vital points to keep in mind for profitable and effective decision making. Every major step is covered for organizing and reorganizing a business; developing good public, customer, and stockholder relations; planning office layout; controlling salesmen's expenses; financing and borrowing; budgeting for profit; designing an effective cost system; preventing fraud and embezzlement; and performing other essential operations. Particularly helpful is the wealth of pointers the book gives on today's tax laws.

CONTENTS—Know the Risks of Business. What to Think about Before You Start a Business. Form Your Business Organization Should Take—Nontax Considerations. Know the Legal Problems of a Corporation and Partnership. Form Your Business Should Take—Tax Considerations. What to Study If You Are Recapitalizing a Business. What to Study If You Are Dividing into Two or More Companies. What to Study If You Are Buying Another Business. What to Study If You Are Considering Selling All or Part of a Business. Check These Methods of Reorganizing a Business If You Seek Greater Profits. How to Create an Efficient Organization. How to Organize for Good Public, Customer, and Stockholder Relations. How to Organize for Good Employee Relations. How to Finance Your Company. What You Should Know about Your Bank. How to Borrow from Your Bank. How to Finance Current Operations If a Bank Loan Is Not Advisable. How to Design an Accounting System to Get Effective Control. How to Design an Efficient Cost System. Records You Should Keep and How to Do It. Usual Frauds and Embezzlements and Ways to Avoid Them. How to Control Salesmen's Expenses. How to Use Business Barometers to Forecast Business Trends to Help You Invest, Budget, and Manage Your Business. How to Budget for Profit. Other Types of Budgets That Are Needed for Profitable Operations. How to Secure Credit Information. How to Determine Amount of Credit to Extend. How to Analyze Customers' Financial Statements. How to Collect Delinquent Accounts. Checklist of Important Laws Affecting Your Collection Methods. How to Check Your Insurance. How to Plan Your Office Layout. What Office Equipment Should You Have? How to Get the Best Out of Your Equipment. How to Cut Printing, Paper, and Engraving Costs. How to Design Your Business Forms. How to Control Stenographic and Correspondence Costs. How to Control Your Filing Costs. How to Cut Down the Cost of Your Postage. How to Save Office Costs or Other Expenses and Avoid Waste. Checklist of Laws Affecting Finance.

PUTNAM, BARLOW, AND STILIAN—Unified Operations Management

By ARNOLD O. PUTNAM and E. ROBERT BARLOW, Rath & Strong, Inc., and GABRIEL N. STILIAN, American Institute of Executives, Inc.

340 *pp.*, 6 *x* 9, 65 *illus.* (1963).....$9.50*i*

A practical, nontechnical presentation of the concepts and techniques involved in a unified approach to corporate management. This book, whose authors have pioneered in Unified Operations Management, envisions the company as a whole and considers the impact of decisions in all functions of the company upon over-all profits. The unified approach that is set forth here combines the new techniques of operations research, information flow, and direct cost accounting to optimize operations and profit planning across functional lines under the guidance of a top-level administrative group.

RAYMOND—Problems in Business Administration

Analysis by the Case Method

By THOMAS CICCHINO RAYMOND, Graduate School of Business Administration, Harvard University.

372 *pp.*, 6 *x* 9, (1955).....$6.75*c*

The 28 cases are organized in four increasingly complex groups. Typically, the cases in the first group deal with one specific problem involving very clearly defined alternatives. Those in the second group have alternatives less clearly defined. In the third group, the cases are noticeably broader, and the issues are often cross-cut problems, in different fields. The last group places increasing emphasis on detailed programs of action and their implementation.

CONTENTS—ANALYZING BUSINESS PROBLEMS IN ADMINISTRATION. Analysis of the Problem. Organization of the Material. A SAMPLE CASE ANALYSIS. Case: The Keystone Chair Company. Factor Analysis. Organizing a Case Analysis. The Outline. HOW TO EVALUATE AN ANALYSIS. Use and Analysis of Evidence. Comprehension of the Situation. Conclusions and/or Recommendations. ANALYSIS OF A CASE; EVALUATION OF STUDENT ANALYSIS. Case: Thaler Candy Company. Analysis Procedure. Three Student Analyses Presented for Critical Evaluation. General Questions. CASES FOR ANALYSIS. ALPHABETICAL LIST OF CASES.

STEINER—Management Long-Range Planning

Edited by GEORGE A. STEINER, UCLA. *Series in Mgmt.*

334 *pp.*, 6 *x* 9 (1963).....$7.95*r*

Develops principles for effective long-range planning and describes in detail the long-range planning techniques applied in seventeen major U.S. corporations and large Federal agencies. This study is an outgrowth of a research seminar held at UCLA for directors of long-range planning.

CONTENTS—Highlights of the Seminar Discussion. Long-range Planning at: Aerojet-General, D. A. Young—Allstate Group, W. Boyd Christensen—American Airlines, Inc., C. N. Oursler—Atomic Energy Commission, John L. McGruder—Autonetics Division of North American Aviation, Inc., Dean O. Bowman—Bendix Corporation, The Long Range Government Planning Group—Continental Copper and Steel Industries, Inc., Walter B. Schaffir—Continental Oil Company, Jarvis B. Cecil—Department of Defense, David Novick—Federal Aviation Agency, Alan Dean—Ford Motor Company, Fred G. Secrest—Glendale Federal Savings, Earl Martinson—IBM, M. J. Kami—Lockheed Aircraft Corporation, Robert F. Steward and James E. Lipp—National Aeronautics and Space Administration, Addison M. Rothrock—Southern California Edison Company, Robert P. O'Brien—Standard Oil Company (Indiana), William McEachron. Some Lessons of Experience.

WATSON—A Business and Its Beliefs

The Ideas That Helped Build IBM

By THOMAS J. WATSON, JR., International Business Machines Corporation. *McK. Found. Lect. Series.*

116 *pp.*, 5⅜ *x* 8 (1963).....$4.95*tL*

An inside look at the success story of IBM and the philosophy of its management. In this book, the son of IBM's founder discusses with perception and enthusiasm the guiding beliefs and rules of conduct that have brought this corporation to its present eminence. Mr. Watson shows how these basic beliefs have served as management guidelines in the company's rapid development through changing times and circumstances. His thoughtful observations on the place of the modern corporation in our society share equal value with his insights on business management.

BURSK AND FENN—Planning the Future Strategy of Your Business

Edited by EDWARD C. BURSK and DAN H. FENN, JR. *Harvard Business Review.*

302 *pp.*, 5⅝ *x* 8⅜, 6 *illus.* (1956)..$6.50*tL*

Proceedings of the Twenty-fifth National Business Conference sponsored by the Harvard Business School Association. This book deals with the need for skillful management and planning in a business world so vastly expanded in the past ten years.

CONTENTS—PART 1. BASIC PLANNING. Introduction of the Theme. Planning the Basic Strategy of a Large Business. Planning the Basic Strategy of a Medium-sized Business. The Essential Components of Business Planning. The Nature of Conservation. PART 2. MANAGEMENT STRATEGY AT WORK. Getting the Organization to Work Effectively as a Team. Capital Investment Control. Developing Managers. Performance Measurement. The Growing Need for Good Communications in Industry. The Impact of Current Marketing Trends. Labor Relations, 1955: A Year of Innovation. PART 3. NEW VIEWPOINTS AFFECTING STRATEGY. Operations Research and Synthesis in Modern Business. Conditions That Shape Corporate Growth. Management and Automation. Some Developments in Business Data Processing. The Attack on Big Business. Increasing the Effectiveness of Conferences. New Trends in Commercial Banking. PART 4. PLANNING FOR YOUR OWN FUTURE. Critical Periods in Personal History.

CORDINER—New Frontiers for Professional Managers

By RALPH J. CORDINER, General Electric Company. *McK. Found. Lect. Series.*

121 *pp.*, 5⅜ *x* 8 (1956).....$4.95*iL*

In this book, the author sets forth the managerial philosophy behind his leadership of one of America's most successful companies. The reader will see how the theory of decentralization has been realistically applied in the reorganization of a company and he will be alerted to the major challenges facing tomorrow's professional managers. Should be of interest to the manager, educator, student, social scientist, or layman.

CONTENTS—New Corporate Dimensions. Decentralization: A Managerial Philosophy. Breakthrough to the Future. Appendix.

GRAY—Common Sense in Business

A Digest of Management Procedures

By J. SETON GRAY, Fuller Manufacturing Co., Kalamazoo, Michigan.

168 *pp.*, 5⅜ *x* 8 (1956).....$5.50*i*

A concise, common sense treatment of the ten major business problems—how they must be coordinated and solved to achieve success. Management, finance, selling, engineering and development, operations, materials cost, overhead, sales costs, and administrative costs are covered with material analyzing each problem

separately, showing how each area is related to the other—their interdependence in the interest to management personnel—executives, management picture. This book should be of junior executives, foremen, and supervisors.

CONTENTS—Business Objectives in Modern Management. The Process of Management. Finance—A Management Tool. Service through Selling, Engineering and Development. Gaining Performance in Operations. The Sales Dollar. Résumé.

HOLDEN, FISH, AND SMITH—Top Management Organization and Control

A reprint with slight moderations of the earlier edition

By PAUL E. HOLDEN, LOUNSBURY S. FISH, and HUBERT L. SMITH, Stanford University.

257 *pp.*, 6 *x* 9, *illus.* (1951).....$6.50*c*
*McG-H Paperbacks Ed.**

A survey of the organization and control practices of a substantial number of very large industrial corporations, with a view to discovering the best practices and techniques and making these available to other companies, large and small. No attempt is made to present an exhaustive treatise on the whole field of management. Instead, the study has been confined to the more important principles of organization and control utilized by top management.

* *Available only through your local bookstore.*

NEUSCHEL—Management by System

By RICHARD F. NEUSCHEL, McKinsey & Co. Second Edition.

359 *pp.*, 6 *x* 9, 25 *illus.* (1960).....$8.75*i*

Treats systems and procedures not as mere paper-work and clerical detail, but as one of the basic administrative techniques through which the complex business organization acts and by which it controls and coordinates its actions. Shows how procedure analysis and improvement can eliminate waste, confusion, and delay and gives specific methods for improving systems and procedures to reduce operating costs and overhead expenses, improve customer relations and communications, and sharpen policy execution.

CONTENTS—The Role of Procedures in Business Management. The Pay Dirt in Procedures Analysis. Barriers to Procedures Improvement. Organizing for Procedures Improvement. The Top-management Approach to Procedures Analysis. Gaining Acceptance of the Procedures Improvement Program. Administering the Procedures Staff Effort. Initiating a Procedures Project. Gathering the Facts. Changing the Substance of a Procedure. Strengthening Management Reports. Simplifying Performance of a Procedure. Exploring the Applicability of Electronic Data Processing. Developing Integrated Data-processing Applications. Presenting and Selling Recommendations. Installing Approved Procedures. Developing and Maintaining Procedure Instructions Manuals.

ROSE AND FARR—Higher Management Control

By T. G. ROSE, Industrial Consultant, London, England, and DONALD E. FARR, H. B. Maynard Company.

294 *pp.*, 6 *x* 9, 78 *illus.* (1957).....$7.50*i*

Describes a method for assembling information about an industrial organization that will reliably report the financial health of that organization as a basis for top-level control decisions. Shows how to select significant data from information available on business, operational, profit-and-loss, and financial activities of a company, and interlock them in a convenient control structure for the higher executive.

CONTENTS—Fundamentals of Management Control. The Business Position. The Operating Position. The Profit and Loss Position. The Financial Position. The Control in Action. Management's Use of Higher Control.

SCHELL—The Technique of Executive Control

By ERWIN HASKELL SCHELL, Massachusetts Institute of Technology. Eighth Edition.

355 *pp.*, 5 *x* 7½ (1957).....$6.50*i*
*McG-H Paperbacks Ed.**

An outstanding manual which makes a constructive analysis of executive conduct for all who are engaged in and preparing for executive administration. Supplies a systematic guide whereby the executive may measure his own procedures against a general pattern of recommended practices—and discover the workable techniques which will make his own business relationships smoother, his work speedier, his decisions easier to make.

CONTENTS—Introductory. The Executive. Executive Attitude and Morale. Executive Tools. Executive Control. Executive Delegation. Executive Stimulation. Executive Duties. Executive Collaboration. Executive Public Relations. Difficulties with Subordinates. Difficulties with Subordinates (Continued). Difficulties with Associates. Difficulties with Superiors. Executive Improvement. Executive Creativeness. Executive Self-Development. Executive Proficiency. Executive Reading. Index.

* *Available only through your local bookstore.*

SELEKMAN—A Moral Philosophy for Management

By BENJAMIN M. SELEKMAN, Harvard University.

219 *pp.*, 5⅜ *x* 8 (1959).....$6.00*t*
*McG-H Paperbacks Ed.**

This book offers a practical approach to the ethical implications of business in industry. Problems and responsibilities management faces are discussed in the light of the Judaeo-Christian tradition and American democracy, rather than through a discussion of ethical theories or religious doctrines.

CONTENTS—MORAL RESPONSIBILITY AND ITS IMPLICATIONS. Business in Search of a Moral Philosophy. The Retreat from the Old Philosophy. The New Posture of Business and Its Implications. THE DANGER OF SELF-RIGHTEOUSNESS. Community and Communion or Alienation and Divisiveness? Credit for Productivity. Blaming Labor for Inflation. Who Is in "Politics?" THE DANGER OF CYNICISM. Cynicism and Managerial Morality. Cynicism and Union Relationships. Cynicism, Justice, and Equity. Cynicism and Intellectuals. Cynicism and Executive Authority. THE DANGER OF PERFECTIONISM. Sin Bravely. The Danger of Overcommitment. Limitations of Managerial Tools. Management and "Human Relations." Power and Amorality. Difficulty of Sanctions. Adding to the Illusion. WANTED: A TECHNICAL FRAMEWORK. An Economics for Business Administrators. Power and Relationships in Institutions. Conflict, Mutuality, and Resolution. Administration as a Key. WANTED: A MORAL FRAMEWORK. Justice and the New Constitutionalism. Realities of Union Power. Constitutional Government and the Loyal Opposition. Abuse and Needed Legislation. Corporate Constitutionalism: An Open Experiment. Conclusion.

* *Available only through your local bookstore.*

STRYKER—A Guide to Modern Management Methods

By PERRIN STRYKER and the EDITORS of *Fortune.*

300 *pp.*, 5½ *x* 8 (1954).....$3.50*t*

Examines executive development, the uses and dangers of training programs, the need for emotional and mental reeducation of management. The techniques of organization planning and control are discussed as well as the failure in corporate communication, the problems of labor-management relations, and questions of executive compensation and retirement.

CONTENTS—Executive Development. Psychological Counseling. Training. Organizing, Planning, and Control. Management Counsel. Communications. Participation. Executive Compensation. Retirement.

VANCE—Management Decision Simulation

A Non-Computer Business Game

By STANLEY VANCE, University of Oregon.

102 *pp.*, 8½ *x* 11 (1960).....$3.75*c*

This new text provides a practical device for the development of an intelligent and skilled management. The significance of simulation in the learning process is discussed. Through a relatively simple simulation device, this Game combines theory and practice, art and science. The emphasis is on top-level management decision making, as opposed to localized or functional analysis. Unique in the emerging field of business games, this text does not require a high-speed digital computer, a costly and arbitrary device. All computations can be worked out manually. The text is correlated with a "live," variable, and uncontrolled business barometer—the Business Week Index.

CONTENTS—MANAGEMENT DECISION SIMULATION. SIMULATION. DECISION MAKING. Acceptance of the Hypothetical. Identification of Strategic Variables. Model Structuring. Dynamic Equilibrium. The Feedback Concept. PROCEDURE IN GAME PLAYING. Organization Structure. Competitive Market Positions. Comparative Balance Sheet Analysis. Capacity Utilization. Equipment Account and Expansion. Activating Idle Capacity. Share of the Market Factor (Smf). The Business Index. Determining Quarterly Sales. Product Pricing. Calculation of Sales Revenue. Calculation of Production Costs. Calculation of Qualitative Factor Cost. Calculation of Distribution Cost. Inventory Costs. Cost of Borrowing. Summation of Costs. Calculation of Net Income. Stock Market Valuation. STEPS IN PLAYING THE GAME. VARIATION IN THE GAME FOR GROUPS OF MORE THAN 24 PARTICIPANTS. CONSTRAINTS (RULES OF THE GAME). THE WORKSHEET. Income. Costs. Inventory. THE BALANCE SHEET ADJUSTMENTS. Assets. Liabilities. STOCK MARKET QUOTATION DATA. ILLUSTRATION OF THE GAME PLAYING Suggestions. Corollary Weekly Assignments. Recommended Assignments for a Sixteen-week Semester. SUMMARY.

McNAIR—The Case Method at the Harvard Business School

Papers by Present and Past Members of the Faculty and Staff

Edited by MALCOLM P. MCNAIR, with the assistance of ANITA C. HERSUM, Graduate School of Business Administration, Harvard University.

292 *pp.*, 6 *x* 9, 5 *illus.* (1954).....$6.50*c*

Here is a complete description of the case method as used at the Harvard Business School in teaching business administration. It is addressed to teachers in business administration and allied fields, to students, and to personnel and training directors and managers of executive development programs.

CONTENTS—Editor's Preface. An Introduction to the Use of Cases. Because Wisdom Can't Be Told. Tough-mindedness and the Case Method. The Genesis of the Case Method in Business Instruction. Some Selected Cases, with Notes on Their Use. The Case Method as Seen by Recent Graduates. The Role of the Instructor in the Case Method. Use of Case Material in the Classroom. Observer's Report on the Role of the Instructor in Case Discussion. Preparation to Teach a Case. Written Analyses of Cases. Development of an Outline for a Course Taught by the Case Method. The Industry Approach to the Teaching of Business Administration by the Case Method. The Case Method and Its Administrative Environment. The Use of Cases for Research. The Possibilities of the Case Method in Supervisory and Executive Development in Industry. The Case Method in College Teaching of Social Science. Writing Business Cases. The Work of the Case Writer. The Financing of Case Collector. Appendix A: List of Some of the Printed and Mimeographed Collections of Harvard Business School Cases. Appendix B: Some Notes about the Contributors. Index.

SMYTH—Financial Incentives for Management

By RICHARD C. SMYTH, Smyth and Murphy, Associates, Inc., New York City.

309 *pp.*, 6 *x* 9, 15 *illus.* (1960).....$8.50*i*

Analyzes and discusses the various concepts, plans, and techniques which can be used to compensate and financially motivate management personnel, from the foreman to the chief executive officer. Shows how these tools can be utilized to form an integrated compensation program that will effectively assist in meeting over-all corporate objectives.

CONTENTS—Introduction. Organization Analysis. Evaluation of Management Positions. Determination of Salary Ranges. Salary Administration and Control. Executive Incentive Bonus Plans. Supervisory Incentive Bonus Plans. Salesmen's Incentive Bonus Plans. Case Examples of Incentive Bonus Plans. Stock Option and Stock Purchase Plans. Deferred Compensation.

Business Organization and Management

ALDERFER AND MICHL—Economics of American Industry

By E. B. ALDERFER, University of Pennsylvania, and H. E. MICHL, University of Delaware. Third Edition.

710 *pp.*, 6 *x* 9, 357 *illus.* (1957)....$7.95*c*

This excellent and thorough revision of a basic text analyzes the economics and structure of the major American industries: steel, automobiles, chemicals, textiles, food, apparel, etc. Since the purpose of the book is to portray the nature of competition prevailing in each industry, the treatment includes an historical sketch, nature and sources of raw materials, technology, leading companies, marketing and pricing policies, profits and financial aspects, and government controls. Special attention is given to the peculiar characteristics which distinguish each industry from the others.

CONTENTS—Preface. PART I. THE PLAN OF THE STUDY. The Study of American Manufacturing: The Individual-industry Approach. PART II. THE METAL INDUSTRIES. The Place and Structure of the Iron and Steel Industry. The Technology of Iron and Steel Manufacture. Location of the Iron and Steel Industry. Competition in the Steel Industry. The Copper Industry. The Aluminum Industry. PART III. THE METAL FABRICATING INDUSTRIES. Making Assembled Metal Products—The Development of Mass Production. The Shipbuilding Industry. The Automobile Industry. The Aircraft Industry. PART IV. THE NONMETALLIC MINERAL INDUSTRIES. The Cement Industry. The Clay-working Industries. The Glass Industry. PART V. THE CHEMICAL PROCESS INDUSTRIES. The Chemical Industries. The Petroleum Industry. The Paper Industry. The Rubber Industry. PART VI. THE TEXTILE INDUSTRIES. The Textile and Allied Industries. The Cotton Textile Industry. The Wool Manufacturing Industry. The Man-made-fiber Industry. The Silk and Man-made-fiber Weaving Industry. PART VII. THE APPAREL INDUSTRIES. The Clothing Industries. The Leather Industry. The Shoe Industry. PART VIII. THE FOOD, LIQUOR, AND TOBACCO INDUSTRIES. The Food Industries. The Flour Milling and Baking Industries. The Sugar Industry. The Meat Packing Industry. The Canning and Frozen Food Industries. The Liquor Industry. The Tobacco Manufacturing Industry. PART IX. THE CHANGING PATTERN OF AMERICAN INDUSTRY. The Changing Pattern of Historical Development. Technology; Its Course and Its Relation to Economic Progress. Competition. Index.

BOWMAN—Management—Organization and Planning

By DONALD M. BOWMAN, UCLA. *Series in Mgmt.*

148 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*i*

The lectures in this volume relate the jobs of organizing and planning in management, and are drawn from the First Executive Profile Lecture Series held at the University of Cali-

fornia in Los Angeles. Carefully chosen from the contributions of the country's leading executives and educators, the selections hypothesize that the success of any enterprise is dependent upon the effectiveness of its organization and planning functions, and then proceed to provide managers with a conceptual framework, both theoretical and practical, which will help them better perform this objective. In order to fulfill this purpose, the selections consider classical and contemporary approaches to organization; the role of formal and informal organization; and the influence of computers on decision-making. Contributors: Melvin Anshen, Keith Davis, Mason Haire, Harry L. Hansen, Harold D. Koontz, John F. Mee, Bruce Payne, H. Edward Wrapp.

CARR AND HOWE—Introduction to Quantitative Decision Procedures in Management and Economics

By CHARLES R. CARR and CHARLES W. HOWE, both of Purdue Univ.

In Press

Provides a clear understanding and working knowledge of currently available and fundamental quantitative techniques of use in solving managerial and economic problems. Optimization of functions of one variable; linear and integer programming; non-linear programming, including a treatment of quadratic programming; stepwise optimization of functions of several variables; and dynamic programming are all covered. In developing these techniques, relevant topics in set theory, calculus, convex mathematics, and linear algebra are presented. The process of model building, the role of economic theory, and the structure of decision problems are emphasized.

CONTENTS—SINGLE STAGE UNIVARIATE ANALYSIS. Foundations. Methods. SINGLE STAGE MULTIVARIATE ANALYSIS. Linear Programming. Integer Programming. Nonlinear Programming. MULTISTAGE ANALYSIS. Stepwise Maximization. Dynamic Programming.

KEITH AND GUBELLINI—Introduction to Business Enterprise

By LYMAN A. KEITH and CARLO E. GUBELLINI, Northeastern University.

448 *pp.*, 6 *x* 9, 142 *illus.* $6.95*c*

The authors of this text place a managerial emphasis on the primary functions and basic techniques of business enterprise. They are concerned with the fundamental questions of *what, why, who,* and *how*—a viewpoint that focuses on the elements common to all business operations. In a highly readable style the book provides a clear exposition of the elements and characteristics of business enterprise. It surveys the structure of business—its principal activities and typical problems—to give the reader a broad understanding of the nature of business and an introduction to the various areas of business specialization.

CONTENTS—Preface. THE FRAMEWORK OF BUSINESS. What Is Business? The Business Environment. The Scope of Business. Forms of Business Ownership. Management and Organization. BUSINESS OPERATIONS. Financing Business Activity. Basic Staffing Considerations. Staffing Functions and Problems. Production Requirements. Organization and Operation of a Production Division. Distribution of Goods and Services. OPERATING TECHNIQUES AND CONTROLS. Personnel Selection and Placement. Personnel Administration. Wage and Salary Administration. Purchasing and Inventory Control. Production Planning and Control. Sales Planning and Control. Pricing. Credit and Collection. Collection and Use of Business Data. SELECTED BUSINESS CONSIDERATIONS. Business Research. Business Risks and Forecasting. Government Control and Assistance. Labor Law. State and Federal Taxation. The Responsibilities of Businessmen. Suggestions for Further Reading. Index.

McDONOUGH—Information Economics and Management Systems

By ADRIAN M. MCDONOUGH, Univ. of Pennsylvania. *Series in Mgmt.*

336 *pp.*, 6 *x* 9, *illus.* (1963).....$8.50*c*

This non-technical discussion provides an integrated framework for the study, development, design and operation of management information systems. It relates the approaches of organization structure and of information structure to the process of management decision making. This approach to organization theory is based on the common denominator of information analysis which allows a total look at the information needs of all positions in an organization. By its concentration on these problems, the book provides a central core of analysis needed to relate the many now separated views of management problems. In accomplishing this objective, the author covers the problems of information needs and data processing in all types of organizations, encompassing problems of organization planning, work assignments, and channels of communication for all white-collar jobs.

CONTENTS—Growth and Content of Information Producing and Processing Jobs in Business. Attitudes Toward Progress—The Environment of the Demand for Business. Survey of Various Research Activities Related to Information and Communications. Information Economics—Scope. Information Economics—Macro Level. Information Economics—Micro Level. Information Management. Profiling Knowledge in the Field of Management Systems. Values, Criteria, and Measurement in Systems Design. Connectors in Systems Design. Developments in Basic Management Grammar. Mass Data Handling Systems. The Political Environment of Management Systems. Concluding Notes on Information Economics and Management Systems. Appendix.

McGUIRE—Business and Society

By JOSEPH W. MCGUIRE, Univ. of Kansas.

320 *pp.*, 5 5/16 *x* 8 (1963).....$5.95*t*

*McG-H Paperbacks Ed.**

Explores the relationships existing between business firms and other institutions and individuals in American society. The central premise is that business is one of the dominant institutions of modern times and that business and societal values are closely intertwined. Under discussion are such topics as business philosophies and values, ethics and goals, government and labor, and political relations. How business and businessmen fit the wider scene of our total American culture are vividly described. The book draws upon and refers to numerous social and behavioral sciences.

CONTENTS—Introduction. The Foundations of Capitalism. The Growth of Business Institutions in the United States. Business Philosophies. Business and Government. Business and Labor. Business in a Pluristic Society. Role Conflicts: The Organization and the Individual. Work and Leisure in Our Modern Society. The Business Image. The Question of Stability. American Business and the International Scene. Affluency: The American Economy in the Postwar Years. Goals, Values, and Ethics in a Business World. The Future of Our Business System. Index.

* *Available only through your local bookstore.*

PRICE, MUSSELMAN, AND WEEKS—General Business for Everyday Living

By RAY G. PRICE, University of Minnesota, VERNON A. MUSSELMAN, University of Kentucky, and EDWIN E. WEEKS, City Supervisor of Business Education, Syracuse, New York. Second Edition.

576 *pp.*, 6½ *x* 9¼, 300 *illus.* (1960).$5.36*b*

Student Activity Guide: Part 1, Units 1–6 $1.52*b*

Student Activity Guide: Part 2, Units 7–12 ..... $1.52*b*
Objective Tests, Part 1 ..... $.68*b*
Objective Tests, Part 2 ..... $.68*b*
Correlated Text-Film Filmstrip Series—six filmstrips ..... each $6.00
set $32.50

The pace-setter in general business texts. A book where students and business meet. Contains teen-slanted case-studies; beautiful, sophisticated drawings, photos, charts, graphs. Modern appearance and format. Features highly motivating student activities, short learning units, generous glossary, pictorial previews.

CONTENTS—UNIT 1. YOU AND YOUR BUSINESS LIFE. We Live in a Business World. You As a Consumer. You As a Producer. How Goods Get from Producers to You. How Business Is Organized to Serve You. UNIT 2. MONEY AND BANKS. The Importance of Money. How Banks Serve You and Your Community. Using a Checking Account. What Happens to the Checks You Write? Special Checks and Other Money Substitutes. UNIT 3. USING MONEY WISELY. Planning the Use of Money. Making and Keeping a Budget. Before You Go Shopping. Getting Your Money's Worth. Agencies That Serve and Protect the Consumer. UNIT 4. MAKING EFFECTIVE USE OF CREDIT. Buying on Credit. Buying on Installments. Borrowing Money. UNIT 5. SAVINGS AND INVESTMENTS. Developing a Savings Plan. Opportunities for the Small Investor. Investing in Securities. Investing in a Home. UNIT 6. FINDING AND KEEPING USEFUL INFORMATION. Using Sources of Information. Keeping Information Systematically. Keeping Records for Clubs and Organizations. UNIT 7. PROTECTION THROUGH INSURANCE. Sharing Economic Losses Through Insurance. Automobile Insurance. Insurance for the Property Owner. Life Insurance As Protection and Savings. Buying Life Insurance to Fit Your Needs. Health and Accident Insurance. Old-Age and Unemployment Protection. UNIT 8. TRAVEL IN TODAY'S WORLD. Selecting a Method of Travel. Other Services Used by Travelers. Making Your Trip Successful. UNIT 9. COMMUNICATION SERVICES. Communication in Modern Life. Using Telephone Services. Using Telegraph Services. Letters As a Form of Communication. UNIT 10. USING POSTAL AND SHIPPING SERVICES. Using Postal Services. Shipping Goods by Express or Freight. UNIT 11. BUSINESS AND COMMUNITY WELFARE. Labor and American Business. Law and Your Business Transactions. Government at Work with Business. Sharing the Cost of Government Services. Citizenship Responsibilities in a Free Enterprise System. UNIT 12. YOU AND YOUR FUTURE. Planning for Your Future. What You Should Know About Occupations. Finding and Applying for a Job. Succeeding in Your Career. GLOSSARY. INDEX.

ROBINSON—Business Organization and Practice

By EDWIN M. ROBINSON, Boston University. Second Edition.

480 *pp.*, 5½ *x* 8⅜, 115 *illus.* (1953) .$5.25*bc*

A concrete statement of modern business operation that effectively penetrates the surface complexities and analyzes the basic facts and procedures. Gives clearly understandable description of departmental operations in large business.

CONTENTS—Introduction to Business. How Business Is Owned. How Business Is Organized for Work. Organization for Finance. Organization of Physical Facilities. Organization of Personnel. Organization for Office Management. Organization for Office Service. Organization for Administration and Control. Organization for Accounting. Organization for Sales and Advertising (Two Chapters). Organization for Handling Sales Orders. Organization for Credit Management. Organization for Purchasing. Organization for Storeskeeping. Organization for Traffic Management. Organization for Production (Manufacturing). Organization of the Individual. Index.

SPENGLER AND KLEIN—Introduction to Business

By EDWIN H. SPENGLER, Brooklyn College and JACOB KLEIN, Long Island University. Fourth Edition.

623 *pp.*, 6 *x* 9, *illus.* (1955) $7.50*c*

Workbook for Introduction to Business. Fourth Edition (1955) $2.95*c*

Presents a complete, unified picture of all phases of modern business. It gives the student a working familiarity with business terminology and provides him with an integrated, coordinated idea of business.

CONTENTS—BUSINESS ORGANIZATION. The Business Economy. Forms of Business Enterprise. Corporate Organization. FINANCE. Capital Stock and Securities Exchanges. Long-term Financing. Short-term Credit. INDUSTRIAL MANAGEMENT. Choice of Location. Production Control. Purchasing and Inventory Policies. LABOR RELATIONS. Personnel Management. Collective Bargaining and Labor Disputes. Industrial Labor Legislation. MARKETING METHODS. Wholesale and Retail Trade. Foreign Trade. Transportation and Storage. Advertising and Public Relations. PRICING PROBLEMS. Prices and Competition. Price Control and Government Regulation. MANAGERIAL CONTROLS. Management and Administration. Accounting Records and Budgeting. Statistical Guides. TAXATION, INSURANCE, AND LAW. Taxation of Business. Insurance and the Control of Risks. Business Law. INDUSTRIAL AND ECONOMIC PLANNING. Business Combinations. Planned Production. Selected References. Index.

TONNE, SIMON, AND McGILL—Business Principles, Organization, and Management

By HERBERT A. TONNE, New York University, SIDNEY I. SIMON, Rutgers University, and ESBY C. MCGILL, Southern Oregon College. Second Edition.

512 *pp.*, 6⅜ *x* 9¼, *illus.* (1963) $5.72*b*

This new book is designed for the beginning course in business principles and business management. The coverage includes choosing a business, choosing a location, deciding on the organization of the business, promoting, selling, merchandising, financing, and many more. The authors use the continuing theme of a young man who goes into business for himself, and experiences the growing pains of organizing, financing, staffing and expanding the business.

CONTENTS—SECTION ONE: PRINCIPLES OF BUSINESS MANAGEMENT. Opportunities for Business in the American Economy. Single Proprietorship and Partnership. The Corporation. Planning for Business Enterprise. SECTION TWO: MARKETING AND MERCHANDISING MANAGEMENT. Studying the Market. Channels of Distribution. Buying. Pricing. Selling. Promotion, Advertising, and Display. Delivery and Shipping. SECTION THREE: FINANCIAL PRACTICES. Credit and Collection. Risks and Insurance. Investments. SECTION FOUR: PRODUCTION MANAGEMENT. Production Planning. Factors of Production. SECTION FIVE: PERSONNEL AND HUMAN RELATIONS. Selecting and Training Employees. Employee Remuneration. Employer-Employee Relations. Management of the Office. SECTION SIX: INTERNAL FINANCIAL MANAGEMENT. Financial Accounting and the Determination of Profits. The Determination and Control of Costs. Budgets and Budgetary Control. Taxes and Their Impact on Business. SECTION SEVEN: GOVERNMENT REGULATIONS. Regulation of Business. SECTION EIGHT: YOUR CAREER IN BUSINESS. Planning a Career. Glossary. Index.

THAIN, WETTLAUFER, AND MARTIN—Business Administration in Canada

By DONALD H. THAIN, JOHN J. WETTLAUFER, and SAMUEL A. MARTIN, all at the University of Western Ontario, London, Ontario.

889 *pp.*, 6¼ *x* 9½, *illus.* (1961) .... $11.50†

A well-balanced mixture of text, readings, and cases, this book presents a comprehensive treatment of fundamental theory, time-tested views of successful business leaders, and the practical application of these theories and views to actual business problems as they exist in Canada today.

TUCKER—Successful Managerial Control by Ratio-Analysis

By SPENCER A. TUCKER, MARTIN & TUCKER.

434 *pp.*, 6 *x* 9, 145 *illus.* (1961) $11.00*i*

† Textbook edition available at educational list price.

Describes how to obtain more effective managerial control by establishing an effective ratio-control system. Explains how to reduce company data to significant ratios, and interrelate their movements, and, by means of computations, charts, and curves, diagnose situations, arrive at decisions, and make long-range plans. Focusing on the development and construction of ratios derived from heretofore unrelated data normally available in company records, the book shows how to give economic meaning and value to unweighted data distilled from production, sales, and finance. The book develops 429 specific ratios, shows how to use the most important of these, and how to develop others. Presented in detail are 154 charts which typify and diagnose situations, conditions, and case histories of actual companies in various industries.

CONTENTS—How to Get Effective Management. Tools for Ratios and Controls. Elementary Ratios for Evaluating Production. Advanced Ratios for Evaluating Production. Managerial Control of Production. Introduction to Evaluation and Control of Sales Function. Elementary Ratios for Evaluating Sales Effort. Elementary Sales Ratios for Evaluating Product Activity. Advanced Evaluation and Control of the Sales Function. The Integration of Production and Sales. Introduction to Financial Management. Elementary Evaluation of the Capital Structure. Elementary Evaluation of Financial Management. Advanced Evaluation and Control of Capital Function. Integration of the Activities of Production, Sales, and Capital.

LASSER—How to Run a Small Business, 3rd Ed.

By J. K. LASSER, revised by J. K. Lasser Tax Institute.

484 *pp.*, 5⅝ *x* 8⅜ (1963).....$7.95*t*

A substantially revised, enlarged and up-to-date version of this popular handbook. Written as a practical guide for the small businessman who finds that—in addition to the "know-how" of his business—successful management requires a working knowledge of financing, taxes, accounting, insurance, office management, promotion, and other specialized business activities. The book is divided into three major sections: (I) Going into Business—which deals with investigating opportunities, buying the business, financing, choice of business form, and licenses needed; (II) Managing and Operating Your Business—which deals with accounting records, taxes, personnel, avoiding fraud, insurance, getting help from consultants, using agents, etc., and using government statistics; and (III) Management of Special Business Phases—which deals with retailing, wholesaling, manufacturing, office management, credit, installment selling, inventory and cost control, and transactions with the Federal Government.

MURPHY—A Business of Your Own

By THOMAS P. MURPHY.

256 *pp.*, 5⅜ *x* 8 (1956).....$4.95*t*

Here is down-to-earth, practical advice for anyone looking for the better-than-average opportunity to go into business for himself. Shows how to recognize new, unexplored, and expanding business opportunities, describes openings created by new products, trends, and economic changes, and warns against obvious, routine business enterprises that are too often destined to fail. Tells how to choose the right kind of business for a person's aptitudes and qualifications, how to evaluate its potential, and how to get started. Specific steps are given for financing the business—how to find equity capital, how to borrow money, and how best to use that money.

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Wright—Managing Yourself, 2 Ed.

Industrial Organization and Management

BETHEL, ATWATER, SMITH, AND STACKMAN—Industrial Organization and Management

By LAWRENCE L. BETHEL, Fashion Institute of Technology, FRANKLIN S. ATWATER, The Fafnir Bearing Company, GEORGE H. E. SMITH, Lawyer and Economist, and HARVEY A. STACKMAN, JR., University of Alabama. Fourth Edition.

714 *pp.*, 6 *x* 9, 110 *illus.* (1962).....$7.95*c*

Correlated Textfilm Series—10 motion pictures (B&W).....$700.00

The fourth edition, like its highly successful predecessors, presents an overview of the operations of an industrial organization, emphasizing the interrelationship of the basic functions and principles essential to the efficient and profitable operation of business and industrial enterprises. This edition has been completely revised to include new developments in industrial operations—recent legislation—innovations in equipment, research, automation, and the development of personnel (especially at the managerial level)—the special influences of improved equipment and procedures for accumulation, analysis, and interpretation of data pertinent to effective management. There are two new chapters on *Managerial Controls* and *International Expansion of American Business Enterprises* plus new illustrations and case problems.

CONTENTS—Preface. American Industry—Growth and Fundamental Concepts. The Internal Organization. Managerial Controls. Industrial Risk and Forecasting. Financing the Industrial Enterprise. Product Research and Development. Product Improvement and Engineering. Production Planning. Physical Facilities—Plant Location and Buildings. Physical Facilities—Plant Equipment, Layout, and Automation. Production Control—Routing and Scheduling. Production Control—Dispatching and Follow-up. Materials Control—Procurement and External Transportation. Materials Control—Inventories and Internal Transportation. Quality Control. Plant Engineering. Methods Improvement. Industrial Relations Principles. Personnel Management. Industrial Training. Morale and Motivation in Employee Relations. Joint Relations and Collective Bargaining. Wage and Salary Administration Procedures, Time Study and Rate Setting. Wage and Salary Administration—Job Evaluation and Merit Rating. Marketing. Advertising and Sales Promotion. Budgetary Control. Internal Finance and Office Operations. International Expansion of American Business Enterprises. Coordinating the Enterprise.

VANCE—Industrial Administration

By STANLEY VANCE, University of Oregon. *Series in Mgmt.*

570 *pp.*, 6 *x* 9, 162 *illus.* (1959).....$7.95*c*

The basic purpose of this text is to help condition management candidates so that they will recognize the importance both of actual performance and of management concepts. The author emphasizes decision-making aspects of industrial administration and includes a brief section on the development of major concepts.

CONTENTS—Preface. CONCEPTS. The Concept of Management. Scientific Management. Technological Change. Concept of Standardization. Organization Structure. Organization Dynamics. Decision Making. Decision

Making—Mathematical Analysis. Corporate Control. Measures of Performance. TECHNIQUES. Capital-equipment Utilization. Methods Analysis. Work-measurement—Time Study. Production Control. Cost Control. Quality Control. Job Evaluation. Wage-incentive Systems. Synthesis: Theory and Technique. Index.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—Small Plant Management

Prepared under the auspices of the Management Division of THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Edited by WILLIAM A. MACCREHAN. Second Edition.

600 *pp.*, 6 *x* 9, *illus.* (1960).....$11.00*i*

An outstanding guide to practical "know-how" management, based on a study of small plant activities. Second Edition describes and illustrates modern concepts, and improved procedures of planning, organizing, operating, and supervising. It enables you to develop management methods that obtain maximum work at minimum cost per unit. Fresh data includes information on Federal and State taxes, overseas business, new management techniques, and other topics.

BETHEL, ATWATER, SMITH, AND STACKMAN—Essentials of Industrial Management

By LAWRENCE L. BETHEL, Fashion Institute of Technology, under the program of the State University of New York, and Lecturer in Industrial Administration, FRANKLIN S. ATWATER, The Fafnir Bearing Company, GEORGE H. E. SMITH, lawyer and economist, and HARVEY A. STACKMAN, JR., Management Institute, University of Alabama. Second Edition.

514 *pp.*, 6 *x* 9, 103 *illus.* (1959).....$6.95*c*

A thorough treatment of the field of industrial relations, emphasizing coordination as the goal of good management. Attention is focused on the best possible approaches to managerial problems as well as on the technical aspects of the subject. The book is distinguished by its balanced treatment of all phases of industrial management, an abundance of illustrations and case problems, and its thorough explantation of fundamental principles. This second edition includes all recent developments and trends in the field.

CONTENTS—Preface. The Industrial Organization—Its Nature and Structure. Industrial Enterprise and the Pattern of Economic Activities. Industrial Finance, Risk, and Insurance. Developing and Engineering the Product. Physical Facilities—The Plant and Equipment. Physical Facilities—Plant Layout, Materials Handling, and Automation. Methods Analysis and Control. Materials Control. Production Control—Routing and Scheduling. Production Control—Dispatching and Follow-up. Quality Control. Principles of Industrial Relations. Administration of Industrial-relations Functions. Wage and Salary Administration. Sales and Advertising. Financial Controls. Office Management. Coordinating the Enterprise. Bibliography. Visual Bibliography. Index.

CARROLL—Better Wage Incentives

By PHIL CARROLL, Professional Engineer.

230 *pp.*, 6 *x* 9, 70 *illus.* (1957).....$7.00*iL*

A practical guide telling you how to set up and effectively maintain a good incentive program. Various types of incentive grievances are shown as well as means of preventing them and means of handling them if they do arise. Treatment includes information on incentives for foremen and economics of incentives.

CONTENTS—Why So Many Grievances? Avoid Mixing Money with Measure. "Rate Setting" Is One Cause. Another Fault Is Lack of Coverage. Losses in Perfecting Methods. Beware of Temporary Rates. Management Errors Cause Irritations. Foremen Must Be Twice as Good. Why Neglect the Indirect? Can People Understand Your Plan? Be Sure to Start Right. Explain as You Go. How to Set Standard Element Times. Build Efficient Working Data. Starting Incentive in Your First Department. Maintain Full Earning Opportunity. Foremen Can Add to Success. Take Care of the Inevitable Change. Carefully Prepare for Arbitration. The Bigger Pie to Divide.

FENN—Business Responsibility in Action

Edited by DAN H. FENN, JR., Editor, Harvard Business School Bulletin; Harvard University Graduate School of Business Administration.

159 *pp.*, 5⅜ *x* 8⅜, 9 *illus.* (1960)..$4.95*tL*

Critically appraises the question of business responsibility: what the phrase really means in practical terms for individual managers and companies—what to do about it—and how to do it. Based on the discussions and speeches of the 29th National Business Conference, the book takes up four major areas of business responsibility—your company and your community; your company and politics; your company and its stake in world affairs; and your company's private life. Distinguished business leaders and observers offer penetrating suggestions in the book on how the increasingly pressing problem of business responsibility may be solved. Among them are Adlai E. Stevenson; David Shepard, Executive Vice President and Director, Standard Oil Company (N.J.); and Thomas H. Carroll, Vice President of the Ford Foundation.

CONTENTS—Introduction. Your Company, Its Immediate Family, and Its In-laws. Your Company and Your Community: The Lessons of Pittsburgh. Your Company and Politics: Should Businessmen Ring Doorbells? Your Company and the World at Large. Responsibilities of Business Leaders—1960. Businessmen Who Think Greatly.

FOLTS—Introduction to Industrial Management

By FRANKLIN E. FOLTS, Harvard University. Fifth Edition.

672 *pp.*, 6 *x* 9, 58 *illus.* (1963).....$8.95*c*

This classic combination text, problem, and casebook effectively utilizes the case and problem approach to stimulate student thinking in terms of modern industrial concepts as applied to specific business situations. New chapters in the fifth edition focus particular attention on such concerns as automation, recent managerial skills, and organizational trends. Modern tendencies to quantify are treated and are presented in the various chapters on business functions and activities. The most widely-used problems in the fourth edition have been retained and revised with additional information from the subject companies. Many additional problems have also been included.

CONTENTS—Preface. Concepts of Industrial Production. Factors of Production. Control of the Production Process. Index.

HEIMER—Management for Engineers

By ROGER C. HEIMER, Villanova University.

453 *pp.*, 6 *x* 9, 11 *illus.* (1958).....$8.95*i*

The purpose of this book is to familiarize the engineer with the business firm's decision-making process and to acquaint him with the day-by-day workings of a business firm, both as an economic organization and as a coordinate institution made up of individual participants. The book takes a practical look at the impact of costs, standards, materials, methods, taxes, insurance, power, equipment, labor, and ethics upon engineering considerations. The author describes the fundamentals of business accounting, analyzes the income contributions of engineers and the costs controllable by them, and acquaints the reader with "The Legal Forms of Business Organization" in the United States.

CONTENTS—Preface. The Professional Engineer. The Legal Forms of Business Organization. Money Flow in the Business Enterprise. Profits. Production Costs—Standard Costs. Interest and Time. Power and Light. Insurance. Depreciation. Inventory. Standards. Labor and Equipment Costs. Budgets. Organization in Industry. Communication and Coordination. Management Decisions. Industry Decision-making Situations. Index.

KIMBALL AND KIMBALL—Principles of Industrial Organization

By DEXTER S. KIMBALL, and DEXTER S. KIMBALL, JR. *Indsl. Orgn. & Mgmt. Series.* Sixth Edition.

500 *pp.*, 6 *x* 9, *illus.* (1947).....$7.50*c*

Describes trends of industrial development and presents underlying principles of industrial management. The applications of these principles to the solution of general problems is discussed.

CONTENTS—The Background of Industry. The Industrial Revolution. The Economic and Social Effects of Invention. The Growth of Industrial Enterprises. Other Industrial Tendencies. Formation and Maintenance of Policies. Industrial Ownership. Location, Arrangement, and Construction of Industrial Plants. Principles of Organization. Coordination and Executive Control. System. Classification and Identification. The Control of Production. Operation Standardization—Time and Motion Studies. Purchasing. Stores and Stock. Standards and Standardization. Attainment of Standards—Inspection. Principles of Cost Finding. The Depreciation of Wasting Assets. Equipment Policies. The Compensation of Labor. Job Evaluation and Merit Rating. Measures of Management. The Mechanization of Industry. Industrial Relations. Resume—Science in Industry.

LIVINGSTON—The Engineering of Organization and Management

By R. T. LIVINGSTON, Columbia University.

247 *pp.*, 6 *x* 9, 27 *illus.* (1949).....$6.50*c*

Text for senior-graduate course in organization and management. This presentation is unique in its completely theoretical approach, covering the field without making any attempt at specific application. Both horizontal and vertical functions are discussed. Each chapter is summarized by a set of discussion questions.

CONTENTS—Introduction. Associations. Men and Machines. The Theory of Action. The Interlinked Cycles of Action. Organization of Industry. Authority and Decision. Top Management. Administration. Analysis. Synthesis. Coordination and Command. Management. Leadership. The Executive. Over-all References. Index.

MINER—The Management of Ineffective Performance

By JOHN B. MINER, Univ. of Oregon. *Series in Mgmt.*

355 *pp.*, 6 *x* 9 (1963).....$7.95*c*

A guide for the practicing manager and for the future manager, both of whom require a satisfactory method for dealing with employees not meeting established standards of effectiveness in the industrial and business world. This book brings together available information on why people fail in their jobs, and proceeds to present a systematic "performance analysis" approach to the solution of ineffective performance. In developing his approach, the author gives an up-to-date review of research and theory pertaining to human productivity in the industrial setting, drawing upon the literature of behavioral science. Actual case histories describing business failure by the individual employee are added for authenticity and documentation of the author's theories and concepts.

CONTENTS—An Introduction to Performance Analysis. Intelligence and Job Knowledge. Emotions and Emotional Illness. Individual Motivation to Work. Physical Characteristics and Disorders. Family Ties. The Groups at Work. The Company. Society and Its Values. Situational Forces. Managerial Ineffectiveness. Case Histories and Performance Analysis. Organizational Implications.

Production Control

MAYER—Production Management

By RAYMOND R. MAYER, Loyola University.

715 *pp.*, 6 *x* 9, 22 *illus.* (1962).....$8.95*c*

Acquaints the reader with the fundamentals of production management. It covers methods analysis, work measurement, wage incentives, production planning and control, inventory control, plant layout and materials handling, quality control, and engineering economics. The book describes and analyzes the basic principles of production management and presents an integrated description of the decision-making process in the respective areas. Every topic discussed begins with a consideration of the nature of the problem and continues with a presentation of the detailed procedure to be employed in its solution.

CONTENTS—Preface. Introduction. METHODS ANALYSIS. The Need for Methods Analyses. Flow Process Charts. Work Station Activity Charts. Motion Study. Selecting the Methods Analysis Approach and Evaluating the Results. WORK MEASUREMENT. Applications and Methods of Work Measurement. The Stop Watch Time Study Approach. Some Basic Statistical Concepts. The Stop Watch Time Study Approach Continued. Some Additional Statistical Concepts. The Stop Watch Time Study Approach Concluded. The Standard Data Method. WAGE INCENTIVES. Basic Wage Incentive Plans. The Purpose of Wage Incentives. Recommendations for a Successful Wage Incentive Installation. PRODUCTION PLANNING AND CONTROL. Sales Forecasting Techniques. Determination of Factor of Production Requirements. Production Control in Intermittent Manufacturing. Production Control in Continuous Manufacturing. INVENTORY CONTROL. Factors Relevant to the Inventory Control Problem. The Economic Lot Size Approach. Some Fundamentals of Calculus. The Economic Lot Size Approach Continued. Determination of Safety Stocks. The Probability Approach. PLANT LAYOUT AND MATERIALS HANDLING. The Determination of Departmental Space Requirements. The Development of a Departmental Arrangement. Making the Detailed Plant Layout. The Design of a Materials Handling System. QUALITY CONTROL. Control Charts for Variables. Control Charts for Fraction Defective. Control Charts for Defects. Acceptance Sampling and Some Underlying Theory. The Design of a Single Sample Acceptance Plan. ENGINEERING ECONOMICS. Relevant Costs in Engineering Economy Studies. Derivations and Applications of Compound Interest Factors. The Uniform Annual Cost Method. The Rate of Return Method. APPENDIXES. Interest Tables. Discussion Questions. Problems. Selected References. INDEX.

MOORE—Production Control

By FRANKLIN G. MOORE, University of Michigan. Second Edition.

655 *pp.*, 6 *x* 9 (1959).....$8.95*c*

Problems and Cases.....$1.50*c*

Completely rewritten and expanded, the new second edition of this text continues the threefold objective of the first edition: describes the work of controlling production, compares methods, and analyzes methods to be used in particular situation. Of special interest in this edition is the greatly increased readability achieved through a new conversational writing style. All old material has been completely rewritten. New material includes operations research, learning curves and their effects on schedule making, manpower planning, inventory control, electronic computers and tabulating equipment in production control, and forecasting and its tie-in with production schedule.

CONTENTS—Preface. Production Control Functions. Types of Production. Minor Kinds of Production. Production Control Types and Procedures. The Production Control Organization. Forecasting. Forecasting (continued). Estimating. Estimating (continued).

Authority to Make. Early Planning-Engineering Aspects. Planning-Engineering Aspects. Master Processing Instructions. Identification Systems and Calendars. Manpower Loading. Controlling Inventories in Order Control. Inventory Control (continued). Planning—Production Control Aspects. Preparing for Production. Scheduling. Dispatching. Keeping Production Moving. Other Shop Problems. Block and Load Control. Flow Control. Flow Control (continued). Operations Research. Linear Programming. Tabulators and Computers. Bibliography. Index.

BROWN—Statistical Forecasting for Inventory Control

By ROBERT G. BROWN, Arthur D. Little, Inc.

223 *pp.*, 5⅝ *x* 8⅜, 71 *illus.* (1959)..$8.50*i*

A practical primer on designing an economical, effective inventory control system. Emphasizes better routine short-range forecasting with suggestions for adapting a program to specific needs. Includes advances such as the use of exponential smoothing for routine forecasting, and the application of the concept of the Z-transform techniques to the analysis of inventory control systems. Theoretical development is given with a minimum of symbolic notation, and the beginning of each chapter develops the concepts in non-technical terms suitable for management.

CARROLL—How to Chart Data

By PHIL CARROLL, Professional Engineer.

260 *pp.*, 6 *x* 9, 186 *illus.*.....$8.50*i*

Shows how many problems involving multi-variables can be solved by means of charts. Explains with step-by-step charts the six methods of combining multi-variables, and demonstrates how one chart can show various solutions to business problems. This practical manual presents valuable information on combining timestudies, sifting out timestudy wastes, laying out curves, analyzing the curve family, checking dimension factors, and combining equations in timestudy.

CONTENTS—Variable Factor Problems. Forms of Charting. Standards for Curve Drawing. Analyze Variables. Time-study Data Curves. Curves as Planning Controls. Straight-line Equations. Equations for Separating Variables. Making Alignment Chart. Useful Alignment Chart. Multiple Curves. How to Use the Curve Family. Numbers Preferred. Constant Per Cent Charts. Space Factors in Charting. Turn Inside Out. Layout for Number Charts. Make Charts Direct Reading. Building Complex Variable Charts. Charts for Setups. Utilize Charted Data.

CRONSTEDT—Engineering Management and Administration

By VAL CRONSTEDT, Consulting Engineer.

380 *pp.*, 5¾ *x* 8, 38 *illus.* (1961)....$9.50*i*

Defines and describes the art of engineering administration and management to aid in the efficient and successful operation of an engineering department. Supplies practical solutions to problems confronting the engineer-administrator in his day-to-day work; discusses administrative methods which result in managerial and departmental progress; and outlines a variety of useful tools such as procedures for making engineering changes and administering the budget. Covers patent laws, financial controls, personnel matters, compensation programs, safeguarding industrial secrets, and many other subjects. Helpful samples of policies, procedures, and practices that can be used as guides in the preparation of a company's operation manual are included.

CONTENTS—Engineering Management. The Structure of the Engineering Organization. The Responsibilities of the Administrator. The Engineering Order. The Responsibility and Authority of the Development Engineer. The Responsibility of the Design Department. Administration by Parts List. The Engineering Change in Design. The Engineering Record Function. The Experimental Shop and Assembly. Experimental Test Operations. Acceptance and Material Not Meeting Specifications. Administration of Budgets and Financial Data. Compensation Administration. The Engineering Proposal. The Patent Policy. The Technical Publication. Safeguarding Industrial Secrets. APPENDIXES. GLOSSARY.

HEILAND AND RICHARDSON—Work Sampling

By ROBERT E. HEILAND and WALLACE J. RICHARDSON, Registered Professional Engineers.

243 *pp.*, 6 *x* 9, 32 *illus.* (1957).....$8.50*i*

Covers the theory, background, and methodology of work sampling. Clear, step-by-step instructions for-planning a study, carrying it out, interpreting the results, and taking action on the basis of the results are given. Case studies give examples of the application of work sampling to office work, machine accounting departments, maintenance crews, construction operations, drafting departments, and hospital and department store activities.

CONTENTS—What Is Work Sampling? Some Examples of the Use of Work Sampling. Some Theory of Sampling in General. Preparing for Work Sampling. Performing Work Sampling. Sampling and the Law of Averages. The Binomial Theorem—Basic Analysis. Tool in Work Sampling. Use of the Control Chart in Work Sampling. Evaluating and Presenting Results of Work Sampling. Selling Work Sampling to Others. Case Studies.

MAGEE—Production Planning and Inventory Control

By JOHN F. MAGEE, Arthur D. Little, Inc.

350 *pp.*, 6 *x* 9, 73 *illus.* (1958).....$8.50*i*

An explanation of new concepts in processes of inventory control and production planning, along the lines of operations research thinking. It discusses the policies and costs that affect inventory and production planning decisions, and how these elements are balanced to arrive at a sound inventory policy and effective methods for carrying it out. In addition to clear explanation of mathematical and technical work in the field, graphical displays and numerical illustrations are given to show how the points and principles apply in practice.

CONTENTS—Inventory Control: Objective, Problems, and Systems. Analysis of Inventory Functions, Cost Factors in Production and Inventory Problems. Choosing the Size of a Manufactured or Purchased Lot. The Influence of Uncertainty. Forecasting. Production-planning Methods. Control of Production Levels. Scheduling Production. Distribution Problems. Design of a Production-control System.

PAPPAS AND DIMBERG—Practical Work Standards

By FRANK G. PAPPAS and ROBERT A. DIMBERG, both of Allen Bradley Company.

223 *pp.*, 6 *x* 9, *illus.* (1962).....$8.50*i*

Supplies practical and accurate time standards which are easy to use in the measurement of work. Shows how to establish specific labor costs for the plant, determine work schedules, justify spending for capital investment, determine plant and production-line layouts, set up incentive pay programs, and make decisions in other areas of practical work standards. Topics covered include materials handling, general assembly, wire forming and fitting, parts processing, fabrication, and assembly. Standards are based on timestudy readings taken in more than a dozen different plants over a period of several years. Presents time tables that establish standards for specific work operations or cycles. Book stresses practical use of simplified and consolidated data.

CONTENTS—Developing Standards and Timestudy Values. Using Timestudy Standards. Materials-handling Standards. General Assembly Operations. Packaging Operations. Wire Forming and Fitting Standards. Parts Processing Operations. Fabricating and Assembly Methods.

SUTERMEISTER—People and Productivity
By ROBERT A. SUTERMEISTER, University of Washington. *Series in Mgmt.*
528 *pp.*, 6 *x* 9, *illus.* (1963).....$6.95*c*
Soft-cover Edition $4.95*c*

Discussion of a management problem of importance—how to get employees to produce more on the job. Recent research findings in behavioral science are integrated as they relate to productivity and to employee job performance. The most important factors influencing employee job performance and productivity and the interrelationships among these factors are covered. A conceptual diagram is used to picture these factors and relationships, supported by a brief explanation and readings which report empirical research findings. This book presents a readable, well-rounded picture of major factors affecting increased productivity and employee performance directly applicable to small or large businesses. The emphasis is on productivity and the ways in which it can be increased, especially through the efforts of employees at all levels.

CONTENTS—Productivity as a Goal of Business. Technical and Human Contributions to Productivity. Physical Working Conditions Relatively Unimportant in Motivation. Individuals' Needs. Factors Affecting Individuals' Needs. Social Conditions of the Job: Formal Organization. Social Conditions of the Job: Informal Organization. Social Conditions of the Job: Leaders. Social Conditions of the Job: Union. Complexity of Interrelationships—A Summary. The Future and the Challenge.

Cost Control

CARROLL—How to Control Production Costs
By PHIL CARROLL, Professional Engineer.
272 *pp.*, 6 *x* 9, 76 *illus.* (1953)....$7.50*iL*

Shows how to get more nearly correct product costs, and how to control these costs. The core idea of the book is that overhead expense must be reckoned in terms of the cost of converting materials into consumer goods—not in terms of a dollar cost that includes the cost of materials. Explains how to set up budgets, standard costs, and product costs in a step-by-step manner, and use them for control. Stresses these five fundamentals of controlling: sales forecasts, production control, engineering specifications, incentives, and reports.

CONTENTS—Why We Need Cost Control—Separate Fact from Fiction—Fallacies in Overhead Costs—Errors from Wrong Yardsticks—Manufacturing Is Conversion—What Measures Salable Pieces—How to Analyze Your Overhead—Plot Expenses for Trend Lines—Setting Your Expense Budgets—What about Material Costs?—You Should Set a Normal Volume—How to Determine Conversion Costs—Why Not Standardize Your Costs?—Call Attention to Variances—Break Even Points Are High—Plug Your Sales Profit Leaks—What Products Are Profitable—Start with Sales Forecasts—How about Production Control?—Do Your Engineers Specify?—People Spend Money—Analyze Your Operation in Detail—Why Neglect the Indirect?—More Tools for Cost Reduction—Control Demands Prompt Reporting—Control Is Taking Action.

CARROLL—How Foreman Can Control Costs
By PHIL CARROLL, Professional Engineer.
225 *pp.*, 4¾ *x* 7⅛, 101 *illus.* (1955) $5.95*iL*

Shows what you can do as foreman to hold costs down and what the benefits will be to the company, its employees, its customers, and yourself. Covers all the things that influence cost problems at foreman's level of supervision—training, salvage, tools, material, maintenance, changes in production methods, timestudies, budgets, overhead, reports, effect of competition, etc.

CONTENTS—1. Should I Worry About Costs? 2. Costs Are Not My Problem. 3. What's the Big Hurry? 4. All My Men Are Working. 5. Stock Chasers Drive Me Crazy. 6. See the Timestudy Men. 7. I Get All the Headaches. 8. All I Do Is Change Set Ups. 9. Can't They Find Any Good Men? 10. How's Come My Scrap Is Up? 11. Tools Don't Cost Much. 12. Material Cost Is My Big Problem. 13. Maintenance Won't Fix 'em Right. 14. Why Can't They Let Us Alone? 15. We've Always Done 'em That Way. 16. They Think They're Inventors. 17. Why Do They Gripe So Much? 18. It's Only a Little Change. 19. Engineers Can't Understand. 20. You Can't Timestudy Me Indirect. 21. Why Bother With Budgets? 22. Overhead Is a Mystery to Me. 23. Why So Many Reports? 24. Who Cares About Competition?

CARROLL—Profit Control
How to Plug Profit Leaks
By PHIL CARROLL.
259 *pp.*, 5⅜ *x* 8, *illus.* (1962).....$7.50*iL*

Explains how to uncover hidden profit leaks, wastes and excessive costs, and improve your company's profit picture. Pays particular attention to wasteful overhead and indirect work, as well as to systems that do not pay off but that management tends to perpetuate. Explores in detail such vital areas as profit planning, sales forecasting, directed incentives, expense budgets, method wastes, engineering specifications, material costs, streamlined process cycles, delivery programs, performance measures, and reports.

GARDNER—Profit Management and Control
By FRED V. GARDNER, Fred V. Gardner and Associates, Management Consultants.
300 *pp.*, 6 *x* 9, 60 *illus.* (1955).....$7.95*i*
*McG-H Paperbacks Ed.**

Deals practically with profit control and management by use of profitgraphs and breakeven point. Coordinates profitgraphs to fundamental balance sheet and profit and loss statement. Spells out how to use breakeven point. Shows how to interpret it and two important uses in management decision. Gives complete directions on use of breakeven point in forecasting and in determining sound bonus plans for key executives; discusses educating supervisors and union officials as to impact of cost increases on profits.

CONTENTS—BASIS FOR PROFIT CONTROL. What Is Management? What Management Manages. Measuring Profit. Why Breakevens Change. Determining Time and Variable Factors. Determination of Capitalgraph Factors. Coordinating Profit Potential and Capital Requirements. Breakeven and Capital Characteristics by Industries. USE OF BREAKEVEN POINTS IN MANAGEMENT DECISIONS. Use of Breakeven Points to Plan and Forecast Costs. Use of Capitalgraph Factors in Forecasting Capital Requirements. Use of Breakeven Points in Control of Overhead. Use of Breakeven Points in Measuring Profit Efficiency . . . in Determining Selling Prices . . . in Competitive Comparisons . . . in Organization Structure. Use of Breakeven Points and Capitalgraphs in Capital Expenditure Decisions. Use of Breakeven Points in Bonus Plans . . . in Supervisory Education . . . in Labor Relations . . . in Direct Costing . . . in Retail Cost Controls. Eye Control Management. Better Accounting Techniques. Controllership.

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Timestudy for Cost Control, 3 Ed.
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How to Chart Data
Better Wage Incentives
Profit Control

Quality Control

FEIGENBAUM—Total Quality Control
Engineering and Management
By Dr. A. V. Feigenbaum, General Electric Company.
610 *pp.*, 6 *x* 9, 233 *illus.* (1961)....$12.50*i*
A unique system of total quality control for organizing effectively the product-related work of an industry, and providing customers with trouble-free products at minimum cost is provided in this volume. It thoroughly covers the major areas of business quality management; quality control management; engineering technology of quality control; statistical technology of quality control; application of total quality control in the plant; and quality control education and training. Determination of customer needs and wants, interpreting these into a design, conforming to the design during production, follow-up on field performance, and feeding back quality information to further improve the quality system are discussed. Also covered is the management of product quality, including planning the quality system, setting up a suitable organizational structure, integrating various functional activities, and measuring results in terms of costs and product quality levels. The engineering technologies used in quality control are described, along with techniques for getting the quality control job done. Educational program for preparing personnel to accomplish the work of total quality control are outlined.
Contents—Product Quality and Total Quality Control. What Are the Factors in Controlling Quality? What Are the Jobs of Quality Control? What Is the Organization for Quality Control? Quality Costs. Quality Control Engineering Technology. Process Control Engineering Technology. Quality Information. Equipment Engineering Technology. Frequency Distribution. Control Charts. Sampling Tables. Special Methods. Product Reliability. New Design Control. Incoming-material Control. Product and Process Control. Special Process Studies. Communicating Total Quality Control.

JURAN—Quality Control Handbook
Edited by J. M. Juran, Management Consultant; Associate Editors, L. A. Seder, Consultant; and Frank M. Gryna, Jr., Bradley University. Second Edition.
1220 *pp.*, 6 *x* 9, 416 *illus.* (1962)..$22.00*hb*
Completely rewritten and greatly expanded, this revised Second Edition of a widely used volume provides in ready reference form the know-how developed in industry for achieving better quality at lower cost. It includes discussions of economics of quality, specification of quality, organization for quality, acceptance, control and assurance of quality, statistical methods for quality control, and quality policy and objectives. Also covered are such aspects as planning for quality, design of the inspection and quality control work place, the quality control manual, personnel methods for quality, budgeting of quality programs, control of vendor quality, quality control in the job shop, and quality control of administrative processes. The section on statistical methods has been enlarged to include fresh material on statistical inference, sampling by variables, sampling for life testing, continuous sampling, narrow limit gauging, and experimental design. New material has been added on plot, discovery sampling, and pre-control. Other new sections have been added on quality control in foundry, papermaking, steel, textile production, quality control in wood-working operations, assembly operations, garment making and metal forming.

MILES—Techniques of Value Analysis and Engineering
By Lawrence D. Miles, General Electric Company.
275 *pp.*, 6 *x* 9, *illus.* (1961).....$9.00*i*
Brings systematic, function-based approach to the task of identifying unnecessary costs, for the aid of the businessman or executive who has profit accountability. Various techniques, taken from all technologies, are used together and in part to identify large amounts of unnecessary costs in all stages of the production cycle—starting before design and continuing through design, manufacturing, and purchasing. Problems involving organization and operation of a value analysis system are also dealt with.
Contents—Value Analysis: Philosophies, Concepts, Basic Steps, Approach. The Value Analysis Job Plan. The Value Analysis Techniques. The Use of the Techniques. Special Knowledge Required. Decision Environment Required. Effect on Other Work in the Business. Effective Organization for Value Work. Essential Make-up, Qualifications, and Training for Value Analysts and Engineers. Work Content for the Value Analyst, Engineer, and Consultant. Motivation, Measurement, and Tests.

Automation and Computers

BITTEL, MELDEN AND RICE—Practical Automation
Methods for Increasing Plant Productivity
By Lester R. Bittel, Morley G. Melden and Robert S. Rice, all of *Factory Management and Maintenance.*
384 *pp.*, 8½ *x* 11, *illus.* (1957).....$4.95*i*
Shows how to install and use plant automation for increased productivity, lower operating costs, and improved safety and working conditions. Gives scores of examples of successful installations from plants of all sizes in various industries. Covers automatic handling, processing, inspection, etc., in a way to help you plan ahead for successful automation.
Contents—What Automation Means to You. How You Can Automate. Automation—Piecemeal. Automation—Full Scale. Automation in Job Shops and Small Plants. Handling Materials. Shaping and Forming the Product. Assembling the Product. Processing and Finishing the Product. Automating Inspection. Controlling Equipment with Coded Information. Plant Engineering for Automation. Maintenance of Automated Equipment. Electrical Power. Instruments and Controls for Automation. Communications Systems. Solving Management Problems. Computers, Information Processing, and Management Controls. Managing People under Automation.

POSTLEY—Computers and People
Business Activity in the New World of Data Processing
By John A. Postley, Hughes Dynamics, Inc.
246 *pp.*, 5⅜ *x* 8 (1960).....$6.50*i*
*McG-H Paperbacks Ed.**
Deals with the field of data processing systems in relation to the business people who come into contact with them. A new focus is presented on the problems of adapting the local culture—managers as well as supervisors and clerks—to both the system and the computer, and of designing the system and the computer to better cope with the cultural problems likely to be encountered.
** Available only through your local bookstore.*

KOZMETSKY AND KIRCHER—Electronic Computers and Management Control
By George Kozmetsky, Litton Industries, and Paul Kircher, University of California, Los Angeles.
296 *pp.*, 6 *x* 9, 10 *illus.* (1956).....$7.00*c*
*McG-H Paperbacks Ed.**

A practical guide to the use of electronic computers in business—showing how they operate, ways in which they may be used, and when and how business executives should plan to use them. Tells how to determine the data processing system and electronic equipment best suited to provide planning and control information, including original and operating costs. Information on how to build a company group of experts to carry out studies, and how to evaluate their activities, is included.

CONTENTS—Introduction. What Is an Electronic Computer? Survey of Electronic Methods of Data Processing. Studies and Applications of Electronic Systems. Administrative Problems Experienced in Introducing Computer Systems. Management and the Scientific Approach. Programming, Scheduling, and Feedback.

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STEELE AND KIRCHER—The Crisis We Face

Automation and the Cold War

By FLOYD GEORGE STEELE, Computer Consultant, and PAUL KIRCHER, University of California, L.A.

220 *pp.*, 5⅜ *x* 8 (1960).....$5.50*t*

*McG-H Paperbacks Ed.**

A penetrating look at the growth of automation in America, the economic struggle with Russia, and the missiles race. It assembles, piece by piece, the entire picture of American-style automation today, criticizing our approach to computer design and application. It reveals what automation is doing to our economic system and how it might affect our retaliatory military power. It cites the failure of our missiles to work reliably; the complexity of our technical design; the Russian economic offensive; and the need for better electronic design and more efficient, not speedier, automation. Suggested are positive programs to help today's executives perform more effectively; standardize systems components; achieve simpler, more efficient computers and automation; improve research; and increase the reliability of our missiles. Also stressed is the need for new advances in technical education—both in schools and business organizations.

CONTENTS—Introduction. Antecedents. Problems of Management. Problems of Design. Solutions to Management Problems. Long-range Technical Problems. Education for Management, Research, Design, and Maintenance of Automation. Analysis of Our Defense.

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Motion and Time Study

BAILEY AND PRESGRAVE—Basic Motion Timestudy

By GERALD B. BAILEY and RALPH PRESGRAVE, J. D. Woods and Gordon, Ltd., Toronto, Canada.

195 *pp.*, 6 *x* 9, 57 *illus.* (1958).....$5.00*i*

Shows the principles of work measurement and of motion identification that must be taken into account in a system of predetermined motion times aimed at universal application. It describes the procedures used to arrive at the motion times through application of these principles and gives examples of how the resulting time data are used to set standards for manual work either through direct study or through use of elemental standard time data.

CARROLL—Timestudy for Cost Control

By PHIL CARROLL, Professional Engineer. Third Edition.

320 *pp.*, 6 *x* 9, 102 *illus.* (1954)....$7.75*iL*

A practical manual of timestudy and control based on predetermined standards. Especially suited to medium and small sized plants where motion study by motion picture method is too costly and time-consuming. Shows how to select men for timestudy work. Gives step-by-step procedures from how and where to start, to application of data in production control. Includes such topics as analyzing timestudy results, building standard data and data work sheets, getting incentive performance, and maintaining correctness in standards. This study, examples of actual predetermined time study, examples of actual predetermined time standards, and alignment chart approach for salary evaluation.

CARROLL—Timestudy Fundamentals for Foremen

By PHIL CARROLL, Professional Engineer. Second Edition.

209 *pp.*, 6 *x* 9, 61 *illus.* (1951)....$5.95*iL*

Tells the foreman what he should know about timestudy. Puts across the basic principles of timestudy quickly—shows what improvements timestudy actually accomplishes—covers the step-by-step procedures for making the study—explains how work-rating is accomplished—and tells how to set up improved working standards that pay off in more and better production.

CROSSAN AND NANCE—Master Standard Data

The Economic Approach to Work Measurement

By R. M. CROSSAN and HAROLD NANCE, Serge A. Birn Company.

257 *pp.*, 5⅝ *x* 8⅜, 94 *illus.* (1962)..$8.00*i*

Explains how master standard data and its supplementary technique, alpha-mnemonic coding, provide a practical solution to the difficulties encountered by many industrial engineers in using MTM and other systems of predetermined motion times. The book clearly shows how to predict job performance and set accurate work-measuring standards for every kind of skilled or unskilled industrial job—without the use of a stopwatch. Readily understood charts, diagrams, and codes (many from actual case solutions) help pinpoint what is applicable to your own needs.

CONTENTS—The Significance of Measurement. Accuracy, Consistency, and Economy. Compensating Variations. The Nature of Motions. Principles of MSD. The MSD Times—What They Represent. Distances—How to Measure Them. The Basic Element "Obtain." The Basic Element "Place." The Basic Elements "Finger Shift" and "Exert Force." The Basic Element "Rotate." The Basic Element "Use." Body Motions. Combined Arm and Body Motions. The MSD Analysis Sheet. MSD Application—Analysis of Individual or Specific Jobs. Standard Data—What It Is and How to Build It. Principles of Coding Information. Constructing an Alpha-mnemonic Code. MSD Application—Developing Standard for a Non-mechanical Activity. Special Situations—Simplifying the Already Simple. Using MSD to Improve Methods. How "Accurate" Is MSD? Special Application—Analysis of Visual Activities. Special Application—Analysis of Highly Repetitive Operations. A Look into the Future.

LOWRY, MAYNARD, AND STEGEMERTEN—Time and Motion Study and Formulas for Wage Incentives

By STEWART M. LOWRY, HAROLD B. MAYNARD, Maynard Research Council, Inc., and H. B. Maynard and Co., Inc., and G. J. STEGEMERTEN, Methods Engineering Council. Third Edition.

432 *pp.*, 6 *x* 9, 151 *illus.* (1940)....$10.50*i*

A standard handbook and study guide on the principles and methods of making time and motion studies and time formula construction. Presents everything necessary to develop a practical working system that may be applied in any industry, with the use of simple and inexpensive apparatus.

CONTENTS—TIME AND MOTION STUDY. Economic Necessity for Measurement of Labor. Aims, Fundamentals, and Development of Time Study. Qualifications of a Successful Time-study Man. Elements of Time Study. Use and Construction of Process Charts. Operation Analysis. The Basic Divisions of Accomplishment. Laws of Motion Economy and Their Corollaries. Characteristics of Motions. Taking Motion Pictures for Motion Study. Film Analysis Procedure. Standardizing the Job. Time-study Equipment Observations. Information. Skill. Effort. Computations and Summary. Determination of Standard Times by Leveling. Allowances. Allowed Time. Studying Existing Conditions. Using the Time Study. FORMULAS. Principles of Formula Construction. General Analysis and Survey. Collecting and Tabulating Data. Classifying Operations and Determining Constants and Variables. Formula Expression. Testing and Selling the Formula. The Formula Report. Clerical Routine. Formula-revision Procedure. Formula for Panel Mounting. Formula for Engine Lathe. Formula for Alloy Castings Molded on Bench.

MAYNARD, STEGEMERTEN, AND SCHWAB —Methods-Time Measurement

By HAROLD B. MAYNARD, Maynard Research Council Inc., and H. B. Maynard & Co., Inc.; G. J. STEGEMERTEN, and JOHN L. SCHWAB, Methods Engineering Council. *Indsl. Orgn. & Mgmt. Series.*

285 *pp.*, 6 *x* 9, 113 *illus.* (1948)....$7.95*i*

Shows how to develop production standards without the use of the stop watch. Describes procedure involved in determining the motions required to perform an operation—shows how to assign pre-determined time standards to each limiting motion. Valuable in methods improvement because it eliminates, to a great extent, the element of judgment.

CONTENTS—Methods Engineering. Methods-time Measurement—An Advanced Step in Methods Engineering. Development of Methods-time Data. Methods-time Data. Reach. Move. Turn. Grasp. Position. Release Load. Disengage. Walking. Other Motions. Principle of the Limiting Motion. Accuracy of Methods-time Standards. Elements of Methods-time Measurement. Information and Observations. Computations and Summary. Estimating from Drawings and Samples. Principles of Motion Economy. Methods Analysis and Development. Principles of the Most Economical Method. Installation of Improved Method. Simplified Methods-time Data—Use and Limitations. Application of Methods-time Standards to Tool Design. Application of Methods-time Standards to Office Methods. Time Formula Derivation from Methods-time Standards. Problem Solving with Methods-time Measurement—Assembly Procedures. Problem Solving with Methods-time Measurement—Performance Rating.

NADLER—Motion and Time Study

By GERALD NADLER, Washington University.

612 *pp.*, 6 *x* 9, 100 *illus.* (1955)....$8.95*c*

Student workbook for *Motion and Time Study.* (1955) $3.75*c*

Presents an operating procedure for solving motion and time study problems which has been found highly successful in all types of work. Discusses problems, past and present, which confront motion and time study practitioners, their effect on concept and practice, and their solutions wherever possible.

CONTENTS—INTRODUCTION TO MOTION AND TIME STUDY. The Philosophy of Motion and Time Study. Approach to Motion and Time Study Problems. GOAL DETERMINATION. Defining the Problem. ANALYSIS OF WORK. Starting the Analysis. Product Process Chart. Form Process Chart. Man Process Chart. Operation Chart. Multi-activity Chart. Therblig and Simo Charts. Other Analysis Techniques. APPLICATION OF PRINCIPLES OF METHODS DESIGN. Areas and Principles of Methods Design. Applying the Check List. Factors Involved in Selection. Evaluation Worksheet Illustrations. FORMULATION OF METHODS DESIGN. Proposed Charts. REVIEW OF METHODS DESIGN. Necessity and Procedures for Review. TEST OF METHODS DESIGN. Methods of Testing. INSTALLATION OF METHOD. Requirements of Good Installation. STANDARDS SETTING. Concepts and Problems of Standards Setting. Recording Conditions and Method. Timing. Pace Comparison (Rating). Difficulty Comparison. Allowances. Standard Data. Applying and Controlling Standards. PROBLEMS. Motion Picture Bibliography. Bibliography. Index.

NADLER—Work Simplification

By GERALD NADLER, Washington University, St. Louis, Missouri.

292 *pp.*, 6 *x* 9, 93 *illus.* (1957).....$7.95*i*

This practical "how-to-do-it" book was written for those who either want to learn or teach the application of the principles and techniques of work simplification. The book tells how to analyze and improve manual work methods to increase productivity, reduce fatique, eliminate danger, and save materials. It clearly describes the techniques and illustrates their application to a variety of types of work with many examples. Thus, it will be universally useful to all concerned with effort and efficiency in work, whether in a factory, store, office, hospital, or home—wherever people work.

CONTENTS—Preface. Introduction. People and Problems. Getting Started. Product Process Chart. Form Process Chart. Man Process Chart. Operation Chart. Therblig Charts. Multi-activity Chart. Analyzing Non-repetitive Work. Other Analysis Techniques. Getting Ideas. Selecting the "Best" Method. Designing the Proposed Method. Reviewing and Testing. Installing the New Method. Fundamentals of Work Measurement. A Brief Bibliography. Motion-picture Bibliography. Index.

QUICK, DUNCAN, AND MALCOLM— Work-Factor Time Standards

Measurement of Manual and Mental Work By JOSEPH H. QUICK, JAMES H. DUNCAN, and JAMES A. MALCOLM, JR., Work-Factor Company.

446 *pp.*, 6 *x* 9, 161 *illus.* (1962)....$9.50*i*

Explains the Work-Factor System and how it is used to solve labor-measurement problems in both business and industry. Shows how to analyze various motion times and mental processes so that the fundamental factors involved in work-time relationships are taken into full account . . . also, how to use the Work-Factor table of standard data. Four different Work-Factor formats—the Detailed, Simplified, Abbreviated, and Ready—are outlined in full for use in connection with methods improvement, product design improvement, day work measurement, incentive pay, and other applications where time values are used to measure the output of the worker.

CONTENTS—Predetermined Motion Time Systems. Research Leading to Work-Factor. The Work-Factor System. Standard Elements of Work. Principles of Detailed Work-Factor. Transport. Grasp. Pre-position. Assemble. Use. Disassemble. Release. Mental Process. Simo-factor. Trunk, Leg, Foot, Head, Combination Motions, and Walking. Special Applications Making the Detailed Work-Factor Analysis. Principles of Simplified Work-Factor. Simplified Standard Elements and Work-segments. Making Simplified Analyses. Principles of Abbreviated Work-Factor. Abbreviated Standard Elements and Work-segments. Making Abbreviated Analyses. Ready Work-Factor. Standard Data Developed with Work-Factor. Training the Industrial-engineering Staff in Work-Factor. Illustrations of How Work-Factor Is Used.

Plant Layout and Materials Handling

IMMER—Layout Planning Techniques

By JOHN R. IMMER, Work Saving International. *Indsl. Orgn. & Mgmt. Series.*

430 *pp.*, 6 *x* 9 (1950).....$7.95*c*

A thorough treatment of the basic principles of production flow and layout, methods for solving layout problems, and layout planning techniques. Examples of layout from many types of manufacturing, offices, stores, and farms are used as practical illustrations.

CONTENTS—Layout Planning Analysis. Applications of Layout Planning. Applications to Factory Planning. Office Layout. Merchandising. Layout Planning for Farms. Other Applications of Layout Planning. Principles of Assembly Line Layout. Applications of Principles. Specialization of Labor. Progressive Assembly. Sub-assembly. Continuous Flow. Straight-line Flow. Jigs and Fixtures. Balance. Flexibility. Presentation of Layout. Information for Layout. Establishing Lines for Flow. Drawing for Plant Layout. Templets. Use of Scale Models. Preparation of Scale Models. The Report. Materials Handling. Approach to Materials Handling. Principles of Materials Handling. Selection of Materials Handling Equipment. Materials Handling Analysis. Case Studies.

MUTHER—Practical Plant Layout

By RICHARD MUTHER, Muther & Associates.

363 *pp.*, 8½ *x* 11, *illus.* (1955).....$9.75*c*

Covers all the essential elements of good plant layout; it explains the four basic phases of setting up an efficient plant layout and discusses the eight fundamental factors influencing these operations. There are clear, complete directions for the practical steps of collecting data, organizing the layout, and installing it. Detailed examples, case illustrations, and specific techniques make the book valuable both to the production man without layout experience and the specialist in the field. Included in the book is a section on management's role in achieving good plant layout.

CONTENTS—Foreword by Harold B. Maynard. THE NATURE OF PLANT LAYOUT Introduction to Plant Layout. Types of Plant Layout. FACTORS INFLUENCING PLANT LAYOUT. Material Factor. Machinery Factor. Man Factor. Movement Factor. Waiting Factor. Service Factor. Building Factor. Change Factor. Guiding Fundamentals. Approach to Layout Engineering. Get the Facts. Determine the Flow. Diagram the Flow. Measure the Time Involved. Visualize the Layout. Evaluating Alternative Layouts. Check and Present the Layout. Install the Layout. POINTS FOR MANAGEMENT AND PROBLEMS. Points for Management. Problems. Appendices.

IMMER—Materials Handling

By JOHN R. IMMER, Work Saving International.

570 *pp.*, 6 *x* 9, 332 *illus.* (1953)....$9.50*cL*

A comprehensive, practical guide, describing specific methods of handling, and pointing out the underlying characteristics common to the many handling problems. It offers a comprehensive survey of materials handling equipment, based upon the function for which it is designed. The book presents an extremely practical and realistic treatment. It is founded subsequently upon case studies, with the underlying principles of each pointed out, and fundamental issues clearly delineated.

CONTENTS—PART I. INTRODUCTION. PART II. MOTION AND TIME STUDY. PART III. MATERIALS AND HANDLING EQUIPMENT. PART IV. PACKAGING SECTION. PART. V. ANALYSIS. PART VI. ORGANIZATION. PART VII. SPECIAL HANDLING PROBLEMS. Appendix: A. Selected Sources of Information. B. Classification for Materials Handling Information. C. Bibliography of Magazine References. D. References to Specific Industries. List of Visual Aids. Index.

Conferences and Meetings

HEGARTY—How to Run Better Meetings

By EDWARD J. HEGARTY, Business Consultant.

300 *pp.*, 6 *x* 9, 54 *illus.* (1957).....$6.50*tL*

Shows men and women in all kinds of clubs and organizations how to plan and run lively, effective meetings. How to handle every problem, from setting up a meeting to closing it on the right note, is covered, with tested pointers on such things as promoting attendance, using the meeting room to advantage, getting and handling guest speakers, and being a good chairman.

MAIER—Problem-Solving Discussions and Conferences

Leadership Methods and Skills

By NORMAN R. F. MAIER, University of Michigan. *Series in Mgmt.*

272 *pp.*, 6 *x* 9, *illus.* (1963).....$6.95*c*

Methods of leadership in management are changing . . . the practice of these new kinds of management requires free discussion and a new kind of conference. Thus, the text asserts, conference leadership is becoming a science. Book observes that people enjoy group problem solving when the conference climate is appropriate, and that the resources of a group exceed those of any one individual. How to use the resources to improve the end product rather than let them lead to interpersonal conflict is the central theme of the book. Book serves as an excellent supplementary text for upper-class undergraduate and graduate students in many courses in the areas of psychology and business administration. It is an especially valuable book for business leaders and executives.

CONTENTS—Preface. Improving Decisions in an Organization. Conference Leadership. Locating the Problem. Presenting the Problem for Group Discussion. Conducting the Discussion. Reaching the Decision. Discussion Methods for Specific Objectives. Screening Solutions to Upgrade Quality. Summary of Problem-solving Principles. Index.

ZELKO—Successful Conference and Discussion Techniques

By HAROLD P. ZELKO, Pennsylvania State University.

264 *pp.*, 5⅜ *x* 8, *illus.* (1957).....$5.00*t*†
*McG-H Paperbacks Ed.**

Sets forth clearly and logically a practical treatment of the basic concepts, attitudes, methods, and skills needed to discharge conference and discussion responsibilities. The soundest and most successful practices developed in business, industrial, and governmental programs are followed. Written for training programs in business and industry as well as technical institute and short college courses; it is also suitable for self-study by business executives and supervisors.

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** Available only through your local bookstore.*

Marketing

FAYERWEATHER—Management of International Operations

Text and Cases

By JOHN FAYERWEATHER, *The International Executive.*

† Textbook edition available at educational list price.

604 *pp.*, 6 *x* 9, 21 *illus.* (1960).....$9.50*c*
A combined text and case book covering the problems faced by American firms operating in other countries, with much emphasis on marketing problems. The cases deal with management operations in such countries as Mexico, India, Turkey, France, and some parts of Africa. The book is comprehensive in the sense that it covers all of the main elements of running a business—personal relations, marketing, community relations, labor relations, organization, financial management, and operating policy.

CONTENTS—The Meaning of International Business Management. Personal Relations. The Cases. Marketing. The Cases. Community Relations. The Cases. Labor Relations. The Cases. Organization. The Cases. Financial Management. The Cases. Operating Policies. The Cases. APPENDIX. Background Information on Countries.

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STANDARD HANDBOOK FOR ACCOUNTANTS

By J. K. LASSER.
1,456 *pp.*, 6 *x* 9, *illus.* (1956).....$20.00*hb*†
Gives practicing accountants the answers to many questions of day-to-day accounting office procedure, from the experience and ideas of 65 experts in various areas of accounting. The book shows how to organize an accountant's office, how to handle audits, how to assist in design and control of forms and systems, including bookkeeping machines, and how to prepare reports and statements. Includes section on accounting fundamentals. Throughout, special attention is given to problems of the CPA.

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† *Textbook edition available at educational list price.*

Introductory Accounting

EASTON AND NEWTON—Accounting and the Analysis of Financial Data

By EDISON E. EASTON and BYRON L. NEWTON, Oregon State College. *Acct'g Series.*

450 *pp.*, 6 *x* 9, *illus.* (1958).....$7.50*c*

Student Workbook (1958).....$2.95*c*

This beginning text for students who will take no further accounting courses includes those accounting principles usually considered to be essential as background for the study of general financial accounting, and in addition, presents an extensive treatment of financial analysis, and basic discussions of income taxes, cost accounting, and budgetary planning. The book contains many questions and problems which cover fundamental principles and procedures *and* practical applications of the material covered with a minimum of emphasis on the details of record keeping.

CONTENTS—Preface. FUNDAMENTALS OF ACCOUNTING. Basic Concepts and Terminology. Accounting for a Service Enterprise. Accounting for a Trading Enterprise. Special Journals and Subsidiary Ledgers. Adjusting and Closing Entries. The Preparation of Financial Statements. Principles and Procedures. SPECIAL AREAS OF ACCOUNTING. Proprietorships and Partnerships. Stockholders' Equity—Corporations. Accounting for Sales. Product Cost Accounting. Accounting for Taxes. THE ANALYSIS OF FINANCIAL DATA. The Analysis of Financial Statements. Analysis of the Income Statement. Analysis of Balance Sheet Data. The Use of Ratios in Statement Analysis. Budgetary Planning and Control. Problems. Index.

GRANT AND BELL—Basic Accounting and Cost Accounting

By EUGENE L. GRANT, Stanford Univ.; and LAWRENCE F. BELL, General Electric Company. *Acct'g Series.* Second Edition.

480 *pp.*, 6 *x* 9 (1963).....$7.95*c*

Provides a sound and adequate understanding of the principles and processes of accounting and cost accounting for persons who do not expect to become engaged vocationally in accounting practice. Emphasis is on the fundamentals that are essential for interpreting accounting reports intelligently, and for understanding the objectives and limitations of an accounting system and the interrelations between that system and other administrative functions in an organization. The material has been updated to conform to current terminology and theory. A new chapter on "Direct Costing" has been added and the chapter on labor costs has been completely rewritten.

CONTENTS—*Fundamentals of Financial Accounting:* Some Basic Concepts. A Simple Example Illustrating Debits and Credits. An Example Introducing Income and Expense Accounts. An Example Introducing End-of-period Entries. Introduction to Accounting Systems—Simple Journals and Ledgers. Introduction to Accounting Systems—Columnar Journals and Subsidiary Ledgers. More about End-of-period Entries. Functions of Financial Accounting Systems. *Elements of Cost Accounting:* Objectives and Methods in Cost Accounting. Introduction to Job-order Costing. Introduction to Process Costing. Material Costs. Labor Costs. Indirect Manufacturing Expense. Standard Costs. Direct Costing. Quality Costs and Joint Costs. *Some Accounting Topics:* Forms of Ownership Organization; Income Taxes. Fixed Assets and Depreciation Expense. Budgetary Control. Some Hazards in the Uncritical Use of Accounting Figures. *Review Problems. Index.*

LEONARD AND BEARD—Canadian Accounting Practice, 2nd Ed.

By W. E. LEONARD, Queen's University, Kingston, Ontario, and FRANK N. BEARD, University of Toronto.

In Press

This widely acclaimed introductory accounting text has been revised and expanded. The book's contents have been expanded to include two new chapters: "Standards of Financial Statement Presentation" and "Simple Cash Budgeting." As in the first edition, the authors have continued to use a functional approach by placing particular emphasis on: a) yearly income determinations as the central theme of financial accounting; b) the derivation of balance sheet "valuations" from income theory; c) the rules of year-end inventory pricing; and d) the procedures for sound treatment of income tax expense. Illustrations and problem materials have been reviewed and modified in order to make them more representative of the latest practices in modern business.

MacFARLAND, AYARS, AND STONE—Accounting Fundamentals

By GEORGE A. MACFARLAND, formerly Wharton School of Finance and Commerce, University of Pennsylvania, ROBERT D. AYARS, formerly University of Pittsburgh, and WILLIARD E. STONE, University of Florida. *McGraw-Hill Accounting Series.* Third Edition.

623 *pp.*, 6 *x* 9, *illus.* (1957).....$7.95*c*

Problem Solution Forms.....$3.95*c*

Blank Books and Papers for the Solution of Practice Sets.....$1.95*c*

Demonstration Problems (Frasure and Rossell) (1958).....$3.00*c*

Correlated Text-Film Filmstrip Series—eleven filmstrips available.....Set I $32.50
Set II $27.50
each $6.00

An elementary accounting text for use both by majors, as a sound basis for further accounting study, and by non-majors, as a terminal course. The first twelve chapters deal with the basic procedures and techniques of accounting. The remaining sixteen chapters contain a more detailed study of the various items appearing in the final statements, the value at which they are shown, and their method of presentation in the statement.

CONTENTS—Accounting—Its Significance. The Statement of Financial Position. The Statement of Income. Accounts—Their Construction. Account Operation and Trial Balance. Journalizing and Posting. Adjusting the Books. The Work Sheet. Closing the Books. The Accounting Cycle. Controlling Accounts. Special and Columnar Journals. Controlling Accounts. Special and Columnar Journals (concluded). Other Records. Cash and Petty Cash. Accounts Receivable—Bad Debts. Inventories and Investments. Negotiable Instruments—Interest and Discount. Fixed Assets. Payroll and Payroll Taxes. Manufacturing Accounts and Statements. The Voucher System. Partnerships. Partnerships (concluded). Corporations. Corporations (continued). Corporations (concluded). Restricted Retained Earnings and Funds. Bonds. Analysis of Financial Statements. Problems. Practice Sets. Index.

MEIGS AND JOHNSON—Accounting
The Basis for Business Decisions

By WALTER B. MEIGS, University of Southern California; and CHARLES E. JOHNSON, University of Oregon.

896 *pp.*, 6¾ *x* 9¼, 34 *illus.* (1962)..$8.50*c*

Supplementary Materials to accompany ACCOUNTING: THE BASIS FOR BUSINESS DECISIONS

For the Student

Accounting Worksheets for Group A Problems, Chapters 1–15.....$2.95*c*

Accounting Worksheets for Group A Problems, Chapters 16–29

370 *sheets*, 8½ *x* 11 and 11 *x* 17....$2.95*c*

Blank Accounting Forms for Group A and B Problems
200 *forms*, 8½ x 11 and 11 x 17....$3.95*c*
Study Guide
By LYLE MCIFF.
192 *pp.*, 8¼ x 10⅞.....$2.95*c*
Practice Sets
I. Unincorporated firm; estimated time for completion: 10 hours.
II. Corporate firm; estimated time for completion 18–20 hours.
Intermediate Accounting:
By WALTER B. MEIGS, CHARLES E. JOHNSON, THOMAS KELLER.
944 *pp.*, 6¾ x 9¼ (1963).....$8.95*c*
Accounting: ADVANCED
By WALTER B. MEIGS, CHARLES E. JOHNSON.
In Press

This fine text is the first book of three coordinated texts written for the modern college accounting program. Here are the fundamentals of accounting presented in a thorough and comprehensive manner—*accounting in depth*. Distinctive characteristics are the emphasis on theoretical accounting concepts and the use of accounting to achieve managerial goals. Chapters in Income Tax and Budgeting are included in addition to the material usually found in introductory works. The book teaches the student to think creatively about accounting for decision making—to look at the data and then ask: What does it mean and what does it tell me about the business? For every chapter there is an abundance of carefully graded problems.

CONTENTS—Accounting—the Basis for Business Decisions. Recording Changes in Financial Condition. Measuring Business Income. End-of-period Adjustments. The Worksheet. Accounting for Purchases and Sales of Merchandise. Control Procedures in a Merchandising Business. Controlling Accounts and Specialized Journals. The Control of Cash Transactions. Promissory Notes; Interest Revenue and Interest Expense. Accounts Receivable. Inventories. Fixed Assets; Depreciation, Depletion, and Amortization. Fixed Assets; Depreciation, Depletion, and Amortization (Continued). Partnerships. Partnerships (Continued). Corporations; Organization and Operation. Corporations; Capital Stock Transactions. Corporations; Surplus, Dividends, and Reserves. Corporations; Extraordinary Gains and Losses; Treasure Stock; Book Value. Bonds Payable and Sinking Funds. Investment in Bonds, Stocks, and Mortgages. The Voucher System; Payroll Accounting. Control and Decision Making—Departmental Operations. Accounting for Manufacturing Concerns. Introduction to Cost Accounting. Accounting for Taxes. Analysis of Financial Statements; Statement of Sources and Applications of Funds. Budgeting—a Planning and Control Device.

HECKERT AND DICKERSON—Drug Store Accounting
By J. BROOKS HECKERT and WILLIAM E. DICKERSON, Ohio State University.
415 *pp.*, 6 x 9, 84 *illus.* (1943).....$9.00*c*

Presents accounting methods and procedures, emphasizing particularly the facts to aid the smaller, independent druggist in developing his accounting records and in using them effectively as an aid to profitable management and merchandising.

CONTENTS—PART I. FINANCIAL STATEMENTS—THEIR NATURE AND USE. Purpose and Use of Accounting Records. The Statement of Financial Condition. The Statement of Income and Expense. Analysis and Interpretation of Statements. PART II. ACCOUNTING PROCEDURES AND RECORDS. Basic Accounting Objectives and Methods. The Accounts. The Accounts (Continued). Use of Accounts Illustrated. The Journals. Sources of Information. Closing the Accounts. Preparation of Statements. Departmental Records. Labor-saving Equipment and Methods. Adjustment of Accounts. Adjustment of Accounts (Continued). Partnership Accounts. Corporate Accounts and Records. PART III. CONTROL OF OPERATIONS. Cash Control. Merchandise Control. Equipment Control. Sales and Gross Profit Control. Expense and Financial Control. Taxes and Insurance. Budgeting Installation of System. Problems. Appendix.

VAN VOORHIS, PALMER, AND ARCHER—College Accounting
Theory and Practice
By ROBERT H. VAN VOORHIS, Louisiana State University, CHARLES E. PALMER, Palmer College, and FRED C. ARCHER, McGraw-Hill Book Co.
College Accounting, Theory and Practice, Part One.
256 *pp.*, 6¼ x 9¼, *illus.* (1963)....$3.75*bc*
College Accounting, Theory and Practice, Parts One and Two.
512 *pp.*, 6¼ x 9¼, *illus.* (1963)....$5.25*bc*
College Accounting, Theory and Practice, Complete.
768 *pp.*, 6¼ x 9¼, *illus.* (1963)....$6.75*bc*

This new accounting program supplies a comprehensive treatment of all up-to-date principles and procedures. It also gives the student ample opportunity, through examples, illustrations, and correlated activities, to learn how these principles and procedures are applied. Part One includes basic accounting principles and their application to service and service-trading type of sole proprietorships. Treatment includes preparation of financial statements and completion of typical payroll procedures. Parts One and Two provide accounting principles, techniques, and procedures relating to sole proprietorship and partnership. Treatment is cumulative and continuous to keep instruction fresh and functional. The complete text includes basic accounting principles and their application to the sole proprietorship, partnership, and corporation. Stresses transaction analysis and modern procedures for recording and processing data.

CONTENTS—ASSETS, LIABILITIES, OWNER'S EQUITY—THE BALANCE SHEET. INCOME AND EXPENSE—THE INCOME STATEMENT. SETTING UP ACCOUNTS. BASIC ACCOUNTING RECORDS. END-OF-CYCLE PROCEDURES. SPECIAL JOURNALS. SPECIAL LEDGERS. ACCOUNTS FOR A TRADING BUSINESS. PAYROLL ACCOUNTING. PARTNERSHIPS. CASH CONTROL. NEGOTIABLE INSTRUMENTS. ASSET VALUATION. ACCOUNTING FOR SALES; DEPARTMENTAL ACCOUNTING. SALES AND PROPERTY TAXES. PARTNERSHIP OPERATIONS. ADJUSTMENTS. END-OF-YEAR PROCEDURES. CORPORATION FORMATION AND ORGANIZATION. CORPORATION OWNER'S EQUITY ACCOUNTING. CORPORATION BONDS AND INVESTMENTS. ACCOUNTING FOR MANUFACTURING. PRODUCT COST ACCOUNTING. ANALYSIS OF FINANCIAL STATEMENTS. BUDGETING AND INTERNAL REPORTING. SPECIAL SALES SITUATIONS. ACCOUNTING THEORY AND PRACTICE. SUPPLEMENTARY PROBLEMS.

Accounting Systems

JOHNSON—Accounting Systems in Modern Business
By ELDRED A. JOHNSON, Brigham Young University. *Series in Acct'g.*
445 *pp.*, 6 x 9, *illus.* (1959).....$8.50*c*

Emphasizing the place of mechanization and automation in the accounting system; this book bridges the gap between accounting procedure as it is presented in the usual accounting textbook and accounting as it is found in business today.

CONTENTS—Preface. Manual Accounting Procedures: The Journals. Manual Accounting Procedures: The Ledgers. Manual Accounting Procedures: Financial Statements. Manual Accounting Procedures: Source Documents. Business Organization. Considerations in Systems Design. Principles of Systems Design. Systems Study and Installation. Write-it-once Equipment. Mechanical Accounting Equipment. Needle-sort Cards. Punched Cards. Common-language Machines. Exter-

nally Programmed Computers. Internally Programmed Computers. Accounting Systems Machines. Appendix. Forms Design. Student Exercises. Index.

Bookkeeping and Record Keeping

FREEMAN, HANNA, AND KAHN—Gregg Bookkeeping and Accounting

By M. HERBERT FREEMAN, Montclair State Teachers College, J. MARSHALL HANNA, Ohio State University, and GILBERT KAHN, East Side Commercial and Technical High School. Third Edition.

512 *pp.*, 6¼ *x* 9¼, *illus.* (1963).....$4.36*b*
Working Papers and Learning Guides, Part One—Units 1–13.....$1.60*b*
Working Papers and Learning Guides, Part Two—Units 14–22.....$1.60*b*

A new teachable and "learnable" bookkeeping textbook that integrates important economic and business-management principles with traditional bookkeeping theory and procedures. Emphasizes the end product of bookkeeping—that of providing a basis for interpreting business progress and forecasting the future. Topics are presented in small "lesson-planned" segments of subject matter making possible the most effective learning and teaching. The abundance of Practice Exercises teach, permit quick evaluation of learning progress, provide a cumulative review, and are flexible for use in any learning situation. Contains a wealth of illustrations plus a variety of teaching and learning aids.

FREEMAN, HANNA AND KAHN—Bookkeeping and Accounting Simplified

Advanced Course

By M. HERBERT FREEMAN, Montclair State College, New Jersey; J. MARSHALL HANNA, Ohio State University; and GILBERT KAHN, East Side Commercial and Technical High School, Newark, New Jersey.

448 *pp.*, 6½ *x* 9¼ (1958).....$4.88*b*
Workbook I (Units 1–8).....$1.96*b*
Workbook II (Units 9–16).....$1.96*b*
Objective Tests.....$.92*b*
Correlated Text-Film Filmstrips Series—six filmstrips.....each $7.50
Set $40.50
Practice Set I—Quality Office Furniture Co., Basic Set.....$2.16*b*
Practice Set II—Lee Sporting Goods Co., Inc., Basic Set.....$2.56*b*
Lee Sporting Goods Co., Inc., Complete Set $3.96*b*
Quality Office Furniture Co., Complete Set $3.28*b*

This book is designed for the second year of high school bookkeeping. There are fifteen units, plus two practice-set narratives and five shorter projects, heavily illustrated with bookkeeping and accounting forms, flow charts and other visual aids. Although the book follows closely after the authors' *Bookkeeping and Accounting Simplified*, First-Year Course, a full review of elementary bookkeeping is included in the early pages. Special emphasis is put on the managerial approach through balance sheet, and the teaching presentation and the learning activities are informative, flexible and challenging.

FRITZ AND HOFFMAN—Text-Workbook in Bookkeeping

By NOBLE FRITZ, Montgomery County School, Maryland; and FRANK HOFFMAN, Mason City Junior College, Iowa.

In Press

A new text-workbook designed to fill the need for a short course on basic principles and fundamental procedures of bookkeeping. Covers service and trading businesses.

HADLEY—Applied Bookkeeping

By the HADLEY EDITORIAL STAFF. *Path. Acct'g Series.* Third Edition.

232 *pp.*, 7 *x* 10, *illus.* (1952).....$4.75*bc*
Workbook for Problems, Applied Bookkeeping. Third Edition.....$2.90*bc*
Sutton's Practice Set, 1952 Edition..$4.50*bc*

A special treatment of bookkeeping, not accounting, for collegiate one-semester courses, gaining wide usage in adult evening programs. It offers a full program of classroom materials: text, workbook, practice set, tests, and instructor's key. It is a flexible program which may be varied from 90 to 175 student-hours. No basic bookkeeping principle or technique is taught without the support of a visual aid.

CONTENTS—The Balance Sheet. The Profit and Loss Statement. The Account and the Ledger. Analyzing, Recording, and Summarizing Transactions. Financial Statements. Controlling Accounts and Special Journals. Banking Procedure. Purchases and Sales. General Records. General Records (continued). Payroll Bookkeeping. Office Routine. Notes Receivable and Payable. Periodic Adjustments. Cost of Goods Sold. The Working Sheet. Preparation of Financial Statements. Interpretation of Financial Statements. Adjusting, Closing, and Readjusting Entries. Types of Business Ownership.

HEIGES, SCHNEIDER AND HUFFMAN—General Record Keeping

By P. MYER HEIGES, Hershey, Pennsylvania, ARNOLD E. SCHNEIDER, Western Michigan College, and HARRY HUFFMAN, Virginia Polytechnic Institute. Fourth Edition.

384 *pp.*, 6⅜ *x* 9¼, 218 *illus.* (1959).$4.72*b*
Workbook for Fourth Edition.....$2.64*b*
Working Papers for Practice Set....$1.20*b*
Tests .....$.84*b*

Revision of a popular basic recordkeeping text; its major purpose is instruction in the business information-handling activities of consumers and business men. Provides a thorough grounding in the purposes of recordkeeping and the manner in which records and reports organize information to tell a story which lead naturally to an introduction of double-entry bookkeeping. A thorough understanding of the text material will enable one to keep the basic records necessary to prepare a simple profit and loss statement, and to meet requirements of income tax regulations for perhaps 80% of the business establishments in the United States.

HADLEY AND THISTLETHWAITE—Payroll Accounting

Principles and Application

By ROBERT L. THISTLETHWAITE and the Hadley Editorial Staff. *Pathfinder Accounting Series.* Fifth Edition.

80 *pp.*, 8½ *x* 11 (1961).....$4.75*bc*

Comprehensive and teachable accounting program. Provides detailed information about payroll accounting. The program is divided into three distinct sections: law, procedures, and journal of entries. Complete package includes: Textbook and Narrative, 80 pages, 8½ x 11. General Records and Ledger; Miscellaneous Tax Forms; Check Unit and earnings records.

HADLEY AND THISTLETHWAITE—Payroll Record Keeping

By ROBERT L. THISTLETHWAITE and the HADLEY EDITORIAL STAFF. Sixth Edition. (1959).

Enveloped Booklets, Business Papers, and Reports $1.90*bc*

Revision of a popular 20-student-hour vocational project designed to give a workable knowledge of payroll record keeping techniques. Valuable addition to almost any business training class: bookkeeping, secretarial training, clerical and office practice, basic business, or office machines. No bookkeeping training required. A short course covering Federal and state laws affecting payroll procedure including the Federal Social Security Act, state unemployment insurance laws, Federal Fair Labor laws, and withholding provisions of the Federal income tax legislation.

Analysis of Statements

FOULKE—Practical Financial Statement Analysis

By ROY A. FOULKE, Dun & Bradstreet, Inc. *Acct'g Series.* Fifth Edition.

736 *pp.*, 6 *x* 9, 41 *illus.* (1962)....$12.50*t*†

A text and reference book describing all the items of which financial statements are made. It covers the background of analysis, analysis of small businesses, internal analysis of balance sheets, comparative balance sheet analysis, income statements, and surplus accounts. The book is written in practical, everyday business language, describing the technique used in analyzing, i.e., *understanding*—what is behind the figures in the statements used in portraying the financial condition of commercial and industrial businesses. Included are ratio standards as a basis for comparison determined from the yearly study of financial statements of over 10,000 business corporations.

CONTENTS—BACKGROUND OF ANALYSIS. Growing Importance of Arabic Figures in the Business World. Viewpoints toward Analyses. Desirability of Supplementary Information. Classification of Balance Sheet Items. ANALYSIS OF SMALL BUSINESS ENTERPRISES. Analysis of Small Business Enterprises. INTERNAL ANALYSES OF BALANCE SHEETS. Current Assets to Current Liabilities. Current Liabilities to Tangible Net Worth. Total Liabilities to Tangible Net Worth. Funded Debt to Net Working Capital. Fixed Assets to Tangible Net Worth. Net Sales to Inventory. Inventory to Net Working Capital. Average Collection Period. Net Sales to Tangible Net Worth. Net Sales to Net Working Capital. COMPARATIVE ANALYSIS OF BALANCE SHEETS. Comparative Analysis of Balance Sheets. Statement of Sources and Applications of Funds. INCOME STATEMENTS. Explanation of Income Statements. Analyses of Income Statements. Break-even Point. Net Profit to Tangible Net Worth. Net Profit to Net Sales. SURPLUS ACCOUNTS. Analyses of Surplus Accounts. SYNTHESIS. Recent Evolution in Accounting Theory and Practice. APPENDIX. INDEX.

Auditing and C.P.A. Problems

ARKIN—Handbook of Sampling for Auditing and Accounting

By HERBERT ARKIN, The City College of New York. *Acct'g Series.*

613 *pp.*, 5⅜ *x* 8, 15 *illus.* (1963)..$12.95*hb*

The purpose of the book is to provide the practicing accountant and the student of accounting with the required knowledge necessary to the application of statistical sampling methods in the fields of auditing and accounting. It is the first practical book which deals with the details of how to use the methods in auditing. It provides an approach which depends primarily on extensive tables, rather than complex formulas, for the solution of the accountant's educational problem. It does not require even an elementary course in statistical methods for its understanding. Nevertheless, it provides not only an explanation of the methods in language understandable to the accountant, but explains and emphasizes the basic concepts involved.

CONTENTS—Preface. The Place of Sampling in Auditing. Selecting the Sample. The Mechanics of Sampling. Elementary Statistical Concepts. Determining Sample Size—Estimation Sampling. Appraisal of Sample Results—Attributes. Appraisal of Sample Results—Variables. Discovery (Exploratory) Sampling. Acceptance Sampling. Stratified Sampling. Cluster Sampling. Difference and Ratio Estimates. Multistage Sampling. Replicated Sampling. Appendixes, Technical Appendixes. Index.

EDWARDS AND RUSWINCKEL—The Professional CPA Examination

Volume I: Text and Problems

By JAMES D. EDWARDS and JOHN W. RUSWINCKEL, both of Michigan State University. *Acct'g Series.*

430 *pp.*, 6 *x* 9, *illus.* (1963).....$9.95*t*†

Covers all three areas of the CPA examination: accounting practice, auditing, and theory. Contains a great deal of text material highlighting the steps to each problem, has many illustrations, and includes comprehensive reading lists of various text books in the field to which the candidate would refer for more detailed preparation. Book was designed for three distinct groups: formal CPA preparation courses, advanced accounting problems courses, and for self-use by the many CPA candidates preparing for the exam.

CONTENTS—Preface. Introduction. Auditing. Theory. Accounting Practice.

EDWARDS AND RUSWINCKEL—The Professional CPA Examination

Volume II: Solutions

By JAMES D. EDWARDS and JOHN W. RUSWINCKEL, both of Michigan State University. *Acct'g Series.*

392 *pp.*, 6 *x* 9 (1963).....$9.95*t*†

To be used with the Edwards and Ruswinckel "Problems" book. It not only provides correct solutions for all of the problems, but acts as an additional teaching aid by showing the correct procedure for each individual problem.

JENCKS—Auditing Principles

By WILLIAM B. JENCKS, The Ohio State University. *Acct'g Series.*

526 *pp.*, 6 *x* 9 (1960).....$8.95*c*

This text presents the principles and methods of conducting an examination of a business for the purpose of expressing a professional opinion as to the fairness of its financial statements. Its scope includes the history, ethics, and liability of the accounting profession, the examination procedures, and methods of reporting the results of the examination. Such income and expense accounts as are related to the examination of the balance sheet accounts are integrated into the discussion with separate coverage being given the remaining operating accounts. Recent bulletins of the AICPA Auditing Procedure Committee are integrated in the material. Generally, valuation problems and accounting theory are minimized with emphasis being on the auditing aspects.

CONTENTS—The Auditor's Function. Beginning the Audit and Internal Control. The Audit Program and Audit Working Papers. Auditing the Records of Original Entry. Cash. Accounts Receivable. Sales, and Bad Debts. Notes Receivable and Related In-

† *Textbook edition available at educational list price.*

come. Inventories and Cost of Goods Sold. Prepaid Expenses. Investments. Tangible Fixed Assets and Depreciation. Intangible Fixed Assets and Deferred Charges. Notes Payable. Accounts Payable and Other Current Liabilities. Long-term Debt and Contingent Liabilities. Proprietorship Accounts. Revenue and Expense. Completing the Audit; the Financial Statements. The Auditor's Report (Short Form). The Auditor's Report (Long Form). INDEX.

Cost Accounting

BIERMAN—Topics in Cost Accounting and Decisions

By HAROLD BIERMAN, JR., Cornell University.

210 *pp.*, 6 *x* 9, 38 *illus.* (1963).....$6.95*c*

Essential goal of book is to broaden the scope of accounting courses by presenting new approaches to solving and thinking about decisions. Especially important is the application of recent developments in statistical decision theory as they apply to accounting type problems. This is not a statistics book, but it does make use of certain statistical concepts and points of view in developing definitions and methods of arriving at decisions. An excellent text for a course following the two-semester beginning accounting courses or for senior or graduate level courses where accounting topics are covered.

CONTENTS—Preface. Cost Control. Cost-Price-Volume Decisions. Variable Costing. Joint Costs and Joint Products. Analysis of Distribution Costs. Measuring Performance and Transfer Pricing. Cash and Decisions. Capital Budgeting. Four Capital Budgeting Decisions. Utility and Capital Budgeting.

BLOCKER AND WELTMER—Cost Accounting

By JOHN G. BLOCKER and W. KEITH WELTMER, University of Kansas. *Acct'g Series.* Third Edition.

623 *pp.*, 6 *x* 9 (1954).....$7.95*c*

Practice Set B (Process Cost Practice Set) $2.50*c*

Practice Set C (Standard Cost Practice Set) (Blocker and Farmer).....$2.50*c*

Sets forth the objectives and procedures of cost accounting from a managerial or supervisory point of view. Topics such as distribution costs and standards for distribution, budgetary control, flexible budgets, and cost analysis for managerial decisions are given usually complete treatment. This book is valuable as a text or reference for beginning or advanced students and businessmen interested in the fundamental principles and practices of cost accounting.

CONTENTS—Preface. Part I. FUNDAMENTALS OF COST ACCOUNTING. Objectives of Cost Accounting. Cost Principle, Terminology. Classification, and Vouchering. Control of Material Purchasing and Issuance. Material Inventory Control and Valuation. Control of Labor Costs. Payroll Accounting. Control and Distribution of Overhead Costs. Budgeting—Technique and General Procedure. Part II. ACCOUNTING FOR PRODUCTION COSTS. Job Order Costs: General Principles: Material, Labor, and Overhead. Job Order Costs: Departmentalization: Analysis and Disposition of Variances. Job Order Costs: Financial and Cost Statement; Special Problems. Process Cost Accounting. Process Cost Accounting (continued). Joint-product Cost and By-product Accounting. Estimate Cost Accounting Systems. Standard Costs: General Principles, Standard for Material, Labor, and Overhead. Accounting for Standard Manufacturing Costs. Analysis, Investigation, and Disposition of Variances from Standards; Statements for Management. Part III. CONTROL AND ACCOUNTING FOR DISTRIBUTION AND ADMINISTRATIVE COSTS. Distribution Cost Accounting. Standards for Distribution Costs. Control and Accounting for Administrative Costs. Part IV. COST ANALYSIS AND REPORTS. Cost Analysis for Management Decisions. Cost and Income Charts. Questions and Problems. Index.

NICKERSON—Managerial Cost Accounting and Analysis, 2nd Ed.

Text, Problems, and Cases

By CLARENCE B. NICKERSON, Harvard University. *Acct'g Series.*

672 *pp.*, 6 *x* 9, 123 *illus.* (1962).....$9.75*c*

This revision of Professor Nickerson's COST ACCOUNTING emphasizes the managerial use of cost accounting, providing material for study and discussion which will help the reader develop a basic understanding of cost accounting for effective use in business. Since the book combines text, problems, and cases its objectives are common to the case method of instruction—to help the reader develop his power to grapple with facts in the analysis of business problems, to reason in business situations, to make business decisions. This edition has been extensively revised and expanded and now includes more cases and problems, and more text material.

CONTENTS—Preface. The Field of Cost Accounting. Inventory Valuation and Profit Determination. Methods of Cost Accumulation. Joint Product and By-product Costing. Standard Costs. Variance Analysis. Special Problems of Factory Burden. Cost-Price-Volume Relationships. Budgetary Control. Budgeting and Control of Administration and Distribution Costs. Financial Budgeting. Cost-Price Relationships. Problems of Alternative Choice. Index.

HENRICI—Standard Costs for Manufacturing

By STANLEY B. HENRICI, H. J. Heinz Company, Pittsburgh, Pennsylvania. *Acct'g Series.* Third Edition.

402 *pp.*, 6 *x* 9, *illus.* (1960).....$8.95*c*

This book gives the reader as much practical information as possible on how standard costs operate, how they are used, and how a standard cost system is installed. The approach is sufficiently general to enable the reader to apply this material to any specific installation, and an effort has been made to consider alternative methods when necessary. The revision encompasses new material on determining direct labor time, graphical variance control, setting standard costs for fringe benefits, and complete illustrative charts of accounts. A major change is the revision of chapter sequence and division into 4 main sections.

CONTENTS—The Concept of Standard Costs. Setting Up the Accounts. Developing the Standard Cost System. Presenting Standard Costs. Summary of Standard Cost Accounting Procedure. Variance Accounting. Setting Standards for Direct Labor. Setting Standards for Indirect Labor. Setting Standards for Materials. Setting Standards for Maintenance and Other Services. Setting Standards for Utilities. Setting Standards for General Overhead. Applying the Standards to Operations. Introduction to Variance Analysis. Variances in Labor Costs. Variances in Materials Cost. Variances in Service and Overhead Costs. Operating Budgets. Supervisors' Incentive Plans. Miscellaneous Features.

Management Accounting

KELLER—Management Accounting for Profit Control

By I. WAYNE KELLER, Armstrong Cork Company. *Acct'g Series.*

435 *pp.*, 6 *x* 9, 117 *illus.* (1957).....$7.95*c*

Presents coordinated cost accounting and budgetary planning and control procedures which the management accountant uses to guide management—from foreman to president—in their decision making. It emphasizes the relationship of the effects of *income*, *cost*, and *capital* on the profit of an enterprise. Techniques are presented for planning and controlling these three determinants of satisfactory

profits, for reporting actuals in comparison with plans, and for analyzing and interpreting deviations from the plans.

CONTENTS—Organization for Management Accounting. Cost Accounting. The Chart of Accounts. Accounting for Material. Accounting for Labor. Accounting for Actual Factory Expense. Cost Accounting Procedure for Actual Costs. Standards and Standard Costs. Absorption Costing. Direct Costing. Product Standard Factory Costs. Accounting Procedure for Standard Costs. Control of Material Costs. Control of Labor Costs. Control of Factory Expense. Costing By-products and Joint-products. Distribution Expense. Administrative Expense. Income Accounting. Budgets and Forecasts. Sales Budgets. The Factory Cost Budget. The Operating Budget. Measurement and Control of Profit. Capital Expenditures and Financial Budgets. Reporting to Top Management. Make or Buy and Lease or Buy Decisions. Break-even Analysis. Setting Sales Prices. Setting Intra-company Trading Prices.

SMITH AND ASHBURNE—Financial and Administrative Accounting

By C. AUBREY SMITH and JIM ASHBURNE, University of Texas. *Series in Acct'g.* Second Edition.

640 *pp.*, 6 *x* 9, 217 *illus.* (1960)....$8.95*c*

Written for future managers rather than practicing accountants, this work provides the student with a broad perspective of the underlying principles, uses, and applications of accounting in the present-day world of business and industry: what the accountant does, why he does it, and what his reports mean. The material is developed simply, with numerous illustrations, but is written in a style that respects the intelligence of the mature reader.

CONTENTS—Nature of Accounting and Its Use in the Economic World. Accumulating Accounting Data. The Rationale of Accounting—Basic Concepts and Policies. The Rationale of Accounting—Concepts of Income Determination. The Conventional Financial Statements. Consolidated Financial Statements. Financial Accounting—Quick Assets—Cash, Marketable Securities, and Receivables. Financial Accounting—Other Current Assets—Inventories and Prepaid Expenses. Financial Accounting—Factory Inventories. Financial Accounting—Current Liabilities. Working Capital Analysis. Financial Accounting—Noncurrent Assets and Investments and Funds. Financial Accounting—Noncurrent Assets and Fixed Assets. Financial Accounting—Long-term Debt and Proprietary Equity. A Case Study in Statement Analysis. Financial Statements and Price-level Changes. The Place and Work of the Public Accountant. Accounting within the Business Organization. Accounting Control of Cash and Securities. Accounting Control of Inventoriable Assets and Other Assets. Accounting Analysis for Managerial Planning. Case Study of the Forecast Budget. Accounting Control of Operations—Cost Accounting and Standard Costs. Accounting Control of Operations—Budgetary Control. Other Accounting Reports for Administrative Control. Managerial Planning to Minimize Tax. INDEX.

WRIGHT—Direct Standard Costs For Decision Making and Control

By WILMER WRIGHT, President, Wright Associates, Inc.

220 *pp.*, 6 *x* 9, 55 *illus.* (1962).....$7.50*i*

A practical guide to direct costing for more effective financial reporting and control, this book contains all the information needed to plan, install, and maintain a Direct Standard Cost system. In step-by-step fashion it describes what direct costing is, its benefits, how to set up the various standards, how to assemble them, determine the cost of each product, how to plan for profits in "depth," and how to streamline accounting reports. Numerous examples of direct cost accounting reports show how direct costing is simple to use, easy to understand, and fast in its application as the basis for profit making decisions. Each step is clearly explained with illustrative examples, graphs, tables, and charts —from long-range trends to foremen's shop reports.

CONTENTS—Introduction. Inter-relation of Prices, Costs, and Volume. Feasibility Studies and Conversion Programming. Responsibility Accounting. Standards for Measuring Activity Level. Flexible Standards for Labor and Expense. Direct Material Standards. Direct Standard Product Costs. The Profit Plan. Reports to Management. Product Pricing with Direct Costs. Other Decision Making Procedures. Appraisal of Direct Costing.

Tax Accounting

LASSER—Standard Handbook of Business Tax Techniques

Prepared by J. K. LASSER TAX INSTITUTE, SYDNEY PRERAU, Director.

568 *pp.*, 5⅜ *x* 8 (1957).....$4.95*hb*

Gives the businessman an understanding of the implications of the income tax that can help him make more profitable decisions in many of the problems he faces day by day. With many examples to show practical applications, the book deals with the tax in relation to the form of a business; income and deductions; compensation; development costs; buying or selling a business; and other areas requiring management decisions. How to choose the right course where tax alternatives can result in a larger or smaller tax, deferral, or no tax, is shown. Also helps the reader know when expert advice is advisable and how to understand and get the most out of his accountant's or lawyer's tax services.

CONTENTS—How the Sole Proprietorship Is Taxed. The Taxing Process for Partnership Operations. How Corporations Are Taxed. Choosing Your Tax Reporting Year and Accounting Basis for Reporting. Income from Business Operations. Tax Aspects of Paying and Receiving Dividends. How Your Interest Is Taxed. Your Rent Income and Deductions. Do You Receive Royalties? Some Unusual Income That May Be Taxed. Tax Aspects of Compensation for Both You and Your Employees. Your Deduction for Depreciation. Casualty and Theft Losses. Advertising, Research, and Development Costs, Bad Debt Deductions. Charitable Contributions and Your Business Policy. Depletion for Mines, Oil and Gas Wells, Other Natural Deposits, and Timber. Spreading Business Losses over a Seven-Year Period. Other Allowable Deductions. How Sales of Property Are Taxed. Tax Economy in Buying a Business. Tax Awareness in Selling a Business or Business Property. Deferring Income on the Sale of Business Property. Tax Management of Investments. Is the Form of Your Business Organization Most Profitable to You? Converting a Partnership or Proprietorship to a Corporation. Reorganizing Your Business with Tax Immunity. Tax and Financial Advantages in Dividing Your Business into Parts. Minimizing Your Family Tax Burden. Tax Management of the Closely-held Corporation. When You May Be Required to Allocate Income and Deductions Between Related Taxpayers. Avoiding the Disallowance of Losses and Expenses Between Related Interests. Using Life Insurance to Protect Your Business Interest.

Supplemental

BROWN AND JOHNSTON—Paciolo on Accounting

By R. GENE BROWN, Stanford University; and KENNETH S. JOHNSTON, Northwestern University.

144 *pp.*, 9¼ *x* 6 (1963).....$5.95*r*

The authors of PACIOLO ON ACCOUNTING have long felt that there should be available a good, readable translation of Paciolo along with some comments on the man and his work. Their objectives in writing this book are to provide students of accounting with a modern translation of the work and give them some appreciation of its significance. The book contains four sections. First, an introductory

section includes a discussion of the significance of Paciolo's work, its role in the development of accounting practice and theory, incorporating those accounting practices described by Paciolo which are still "generally accepted," and some background about the man himself. Second, there is a modernized translation of the accounting section of Paciolo's SUMMA DE ARITHMETICA, GEOMETRIA, PROPORTIONI ET PROPORTIONALITA. This translation retains the original flavor of the work and does not change its substance. Third, for those scholars interested in the original, there is reproduced by photo offset the original section on accounting. Fourth, there is a bibliography of material written about Paciolo and his work.

Business Law

WYATT AND WYATT—Business Law, 2nd Ed.
Principles and Cases
By JOHN W. WYATT, Univ. of Florida, and MADIE WYATT.
1107 *pp.*, 6 *x* 9, *illus.* (1963).....$8.95*c*
This distinguished text is based on subjects covered by the C.P.A., C.L.U., and C.P.C.U. examinations. In this revision the authors have introduced the Uniform Commercial Code at appropriate points throughout the book to permit the teacher a choice of topic emphasis. A new chapter on "Secured Transactions" has been added. New case problems have been added to those of the first edition to give students more opportunity for independent analysis of legal problems.
CONTENTS—Introduction. Contracts. Agency. Sales. Negotiable Instruments. Bailments: Documents of Title. Security Devices. Business Organizations. Property. Wills and Trusts. Insurance; Suretyship; Guaranty. Public and Administrative Law.

SPENCER AND GILLAM—A Textbook of Law and Business
By WILLIAM H. SPENCER, and CORNELIUS W. GILLAM, University of Washington, *Bus. & Econ. Pub.* Third Edition.
838 *pp.*, 6 *x* 9 (1952).....$8.50*c*
An unusually intensive textual treatment of the elementary legal topics of greatest importance to the business world. It is designed for college students and for reference. The book deals with law as an agency of social control, procedure, persons, torts, contracts, agency and the contract of employment, property, bailments, sales, negotiable instruments, security transactions, insurance, partnership, corporations.
CONTENTS—Part I. LAW AND THE ECONOMIC ORDER. The Economic Order. Law: An Agency of Social Control. Part II. FUNDAMENTAL PRINCIPLES OF LAW. Enforcement of Rights. Persons. Forms of Civil Liability. The Law of Agency. The Law of Private Property. Part III. APPLICATION OF LEGAL PRINCIPLES TO BUSINESS ACTIVITIES. The Law in Relation to the Market. The Law in Relation to Finance. The Law in Relation to Risk and Risk-bearing. The Law in Relation to Labor. The Law and the Form of the Business Unit. Table of Cases. Index.

SPENCER AND GILLAM—A Casebook of Law and Business
By WILLIAM H. SPENCER, and CORNELIUS W. GILLAM, University of Washington. *Bus. & Econ. Pub.* Second Edition.
968 *pp.*, 6 *x* 9 (1953).....$9.50*c*
Here is a collection of leading cases illustrating the main principles of those legal topics which are most significant in the business world.
CONTENTS—Background of the Study of Law. Persons. Torts. Contracts. The Legal Form of the Business Unit. Legal Aspects of Market Relations. Legal Aspects of Financial Relationships.

ROSENBERG AND OTT—College Business Law
By R. ROBERT ROSENBERG, Jersey City Junior College, and WILLIAM G. OTT, Goldey-Beacon School of Business, Wilmington, Delaware. Second Edition.
576 *pp.*, 6 *x* 9, *illus.* (1961).....$5.50*bc*
Workbook $2.40*bc*
Tests .....$.95*bc*
Lively, modern text focusing on problems of young adults and beginning office workers. Gives students a clear understanding of our legal system . . . its place in society . . . its importance to businessmen. Presents more than 800 illustrative case problems to enliven student interest; over 700 discussion problems for review and analysis; and facts and ways to avoid legal pitfalls. Also eight current tables providing latest data from 50 states regarding loan company rates, child labor legislation, statues of limitations, age of majority, etc.
CONTENTS—Why You Should Know the Law. Legal Rights and Duties. Formation of Contracts I. Contracts in Everyday Affairs. How Binding Contracts Are Made. Who May Make Binding Contracts. Formation of Contracts II. Benefits and Sacrifices Essential to a Binding Contract. Subject Matter of a Contract Must Be Legal. Certain Contracts Must Be in Writing. Operation and Discharge of Contracts. How a Contract Must Be Performed. How Contracts Are Terminated. Statute of Limitations. When a Person Is Bankrupt. The Law of Sales of Personal Property. How Title to Personal Property May Be Transferred. When Title Passes in a Sales Contract. Who May Pass Title to Personal Property. How the Law Affects Buyer and Seller. Bailments—Hotel Keepers—Common Carriers—Warranties. Possession of Property Without Ownership. Legal Responsibilities of Hotel Keepers. Regulation of Carriers of Goods and Passengers. The Law of Negotiable Instruments. How to Recognize Negotiable Instruments. Negotiable Paper in Common Use. How Title Passes in Negotiable Paper. Enforcing Payment of Negotiable Instruments. Insurance. How Insurance Works. Kinds of Protection Provided by Insurance. Agency Employers and Employees. Who May Be an Agent. How an Agency Is Operated and Terminated. Legislation Affecting Employer-Employee Relationship. Business Organizations. Selection of Right Type of Business. Operation and Dissolution of a Partnership. Operation of a Corporation. Legal Limitations of Corporation Powers. Principles of Real Property. How the Law Limits the Use of Property. Acquiring Title to Real Property. Legal Steps in the Purchase of Real Estate. Advantages of Renting. Mobile-Home Ownership. Disposing of Property Through a Will. How the Law Provides for Economic Security. GLOSSARY. INDEX.

BREWSTER—Antitrust and American Business Abroad
By KINGMAN BREWSTER, JR., Yale University.
448 *pp.*, 6 *x* 9 (1958).....$12.50*c*
This book attempts to analyze American law and policy applicable to restraints upon the foreign trade of the United States. It seeks to be helpful to businessmen and their legal advisors by assessing the legality of various types of business arrangements which Ameri-

cans might want to make abroad. Present law and policy is evaluated in the light of the international interests and objectives of the United States. The book is of interest to businessmen and lawyers, and also to teachers and students of law, economics, and business.

CONTENTS—SECTION I. THE SWEEP OF THE PROBLEM, THE POLICY AND THE LAW. The Policy Issues: An Introductory Analysis. The Origin and Application of Antitrust in Foreign Commerce. Foreign Interests and Reactions. The Scope and Limits of Antitrust Jurisdiction. Antitrust Concepts Applicable to Foreign Commerce. SECTION II. THE LAW'S IMPACT ON SPECIFIC ARRANGEMENTS. Exports. Licenses. Ownership of Foreign Enterprise. Sanctions and Remedies. How Is American Business Abroad Affected by Our Antitrust Laws? SECTION III. ALTERNATIVE VIEWS AND POSSIBLE ADJUSTMENTS. Possible Jurisdictional Tests. Appendix: A Study of the International Environment: The International Reach of Other American Legislation. What Tests for a Foreign Commerce Restraint. Rule-making, Clearance, and Exemption. The Allocation of Administrative Responsibility. Conclusions and Recommendations.

CORLEY AND BLACK—The Legal Environment of Business

By ROBERT N. CORLEY and ROBERT L. BLACK, both of the Univ. of Illinois.

352 *pp.*, 6 *x* 9 (1963).....$5.95*c*
Soft-cover Ed. $4.50*c*

This book analyzes the legal environment in which modern business decisions are made. A textbook for business law students, it develops the concept of law by examining the sources of law and the factors influencing its evolution. Historical, social, and economic problems which have influenced the evolution of the laws affecting labor and business are included, as are recent trends and issues. The judicial system and major environmental factors such as taxation, the regulation of commerce, competition and labor-management relations are considered. Summary discussions are supplemented by cases and materials throughout to illustrate the emergence of big business, big labor and big government.

CONTENTS—Law. Written Law. Law Established by Judicial Decision. Action by Administrative Agencies as a Source of Law. Formulation of Judicial Decisions. The Judicial System. Regulation of Commerce. Taxation of Business. Regulation of Competition. Business and Labor. Issues and Trends in Law and Business.

ROSENBERG AND CRANK—Essentials of Business Law

By R. ROBERT ROSENBERG, Board of Education, Jersey City, New Jersey and FLOYD CRANK, University of Illinois. Third Edition.

384 *pp.*, 6 *x* 9, *illus.* (1963).....$4.16*b*

New one-term text that interprets basic legal concepts in terms of the student's own everyday experiences. Shows how law affects student's life and guides businessmen. Presents business law in simplified, readable terms making it understandable to all students.

SCHNEIDER, SMITH, AND WHITCRAFT—Personal Business Law

By ARNOLD E. SCHNEIDER, Western Michigan University, EDWARD A. SMITH, Syracuse University, and JOHN W. WHITCRAFT, Albany Board of Education. Third Edition.

344 *pp.*, 6 *x* 9, *illus.* (1963).....$5.60*b*

This new text is particularly useful in all secondary schools, private business schools, adult classes, or wherever a course in the personal application of law is prescribed. One of the new features is the addition of adjudicated cases. This revision embraces all the leading state syllabi so it is suitable for use in all fifty states and insular possessions.

Finance

Business Finance

HOWARD AND UPTON—Introduction to Business Finance

By BION B. HOWARD, Northwestern University, and MILLER UPTON, Beloit College.

564 *pp.*, 6 *x* 9, 54 *illus.* (1953).....$7.95*c*

Provides the student with a basic understanding of the financial functioning of business enterprise. It deals with business finance from the administrative point of view and describes those aspects of business management which have to do with finance, showing their relationship to the overall business operation. The book is usually comprehensive in the sense that it deals with the financial function of all private businesses, not just a single form of business organization such as the corporation. Because the great majority of businesses are small, a good deal of emphasis is placed on the particular financial problems of small business.

CONTENTS—Preface. Financial Organization. Administrative Tools of Finance. Financial Analysis. Administrative Tools of Finance: Budgets and Financial Planning. Short-term Financing of Asset Requirements. Intermediate- and Long-term Financing of Asset Requirements. Nonrecurring Financial Problems of the Business Unit.

VANCIL—Leasing of Industrial Equipment

By RICHARD F. VANCIL, Harvard University.

283 *pp.*, 7¼ *x* 9⅞, 6 *illus.* (1963)..$12.50*i*

Presents a more specific examination of the economics of leasing industrial equipment than has heretofore been published. The author addresses himself to the executive concerned with the problem of making leasing decisions, and the analyst (and accountant) charged with making comparative evaluations of leasing plans. Shows how a sound lease-or-buy decision can be reached. Also describes the various types of leasing arrangements available, and presents the analytical procedures used in evaluating the alternatives.

Investments

CLENDENIN—Introduction to Investments

By JOHN C. CLENDENIN, Professor of Finance, University of California, Los Angeles. Third Edition.

689 *pp.*, 6 *x* 9, 18 *illus.* (1960).....$8.50*c*

This book is written from the point of view of the personal investor. Among the popular features are the logical organization, the terse yet thorough style, the balance and maturity of observation, and the successful use of illustrations. The book stresses the solution of personal investment problems—the objectives, policies, and risks; places considerable emphasis on the forms and mechanics of investments; introduces a wide variety of pertinent subject matter; and emphasizes the broad

coverage of investment opportunities and the supply and demand problem of the valuation of investments.
CONTENTS—INTRODUCTORY. Investment Objectives. Basic Determinants of Investment Values. CORPORATE SECURITIES. Corporate Practices and the Investor. Common Stocks and Their Value. Preferred Stocks and Their Value. Corporate Bonds and Their Value. Embarrassed or Insolvent Corporations. THE SECURITIES MARKETS. Securities Market Organization. Brokerage and the Stock Exchanges. Behavior of the Speculative Markets. Investment Information and Advice. Protecting the Investor from Loss. ANALYSIS OF CORPORATE SECURITIES. An Approach to Investment Analysis. Making Use of Financial Reports. Railroad Securities. Public Utility Securities. Industrial Securities. Bank Stocks. Investment Companies. Fire and Casualty Insurance Stocks. PUBLIC SECURITIES. United States Government Securities. State and Municipal Bonds. OTHER INVESTMENTS. Life Insurance. Savings Institutions and Trusts. Real Estate and Mortgage Investments. Foreign Securities or Property. PERSONAL INVESTMENT ADMINISTRATION. Taxes Which Affect Investment Policy. Administering the Personal Portfolio.

BATES—Investment Management
A Casebook
By GEORGE E. BATES, Harvard University.
433 *pp.*, 6 *x* 9 (1959).....$8.95*c*
This new work contains 47 carefully selected cases in the investment management field. In addition, more cases are included than are ordinarily required in a one-semester course, enabling the teacher to omit material not deemed necessary for a particular course. The collection is adequate for a full year's course if supplemented with current materials on security analysis. Cases have been selected from over several hundred written and collected by the author at Harvard and are presented in an order which will progressively develop skills needed to balance the various and frequently conflicting requirements of the investor.
CONTENTS—Preface. Introduction. Mrs. Heald. Life Insurance and Annuities. Mr. Hastings. Real Estate and Mortgages. Interpretation of Financial Statements. Security Analysis. Security Analysis and Portfolio Requirements. Timing. Portfolio Policies and Management. Small Trusts and Accounts. Institutional Accounts.

COTTLE AND WHITMAN—Investment Timing
The Formula Plan Approach
By C. SIDNEY COTTLE and W. TATE WHITMAN, Emory University.
200 *pp.*, 6 *x* 9, 43 *illus.* (1953).....$6.50*r*
Offers a critical analysis of formula plans—the most important technique thus far developed to cope with the cyclical hazards of equity investing. Its objective is to provide the investor with both a thorough understanding of formula plans and the information essential to a considered decision of their use in his own investment program.
CONTENTS—Preface. Stock-price Cycles and Investment Policy. The Formula-plan Approach to Stock-market Timing. Analyzing and Appraising Formula Plans. Constant-ratio Plans. Delaying Action under Constant-ratio Plans. Norm-type Variable-ratio Plans: Moving Average. Norm-type Variable-ratio Plans: Trend Lines. Norm-type Variable-ratio Plans: Intrinsic-value Medians. Non-norm Variable-ratio Plans. Constant-dollar Plans. Dollar Averaging. Modifications of Formula Plans. Selection and Initiation of a Formula Plan. Appendix. Index.

DICE AND EITEMAN—The Stock Market
By CHARLES A. DICE, Ohio State University, and WILFORD J. EITEMAN, University of Michigan. Third Edition.
460 *pp.*, 6 *x* 9, *illus.* (1952).....$10.50*t*†
Describes every aspect of the history, organization, and operations of the stock market. It discusses the methods of operation employed by each type of trader; explains the forecasting methods of the principal forecasting agencies; shows how to analyze stocks and bonds; and clarifies the leading theories of what determines stock prices.
CONTENTS—Preface. Tables. General Characteristics of the Market for Stocks. The Kinds of Securities Offered the Public. The Customers' Room. Reading the Financial Page. The Relation of the Broker to His Customer. The New York Stock Exchange and Other Stock Markets. The Listing of Securities on the New York Stock Exchange. Stock Clearing. The Classes of Brokers—Their Economic Function. The Time and Methods of Delivery of Stock. Purchasing on Margin. The Short Sale. The Stop-loss Order and the Hedge. The Business of the Odd-lot Dealer. Types of Trading and Traders. Averaging and Pyramiding. Calls, Puts, Spreads, and Straddles. The Technical Position of the Market. Rights and Their Market. Convertible Securities and the Price of Stocks. The Transfer of Stocks. Manipulation and the Securities Exchange Act. Stock Price Averages. The Dow Theory. The Money Market in Relation to the Stock Market. Forecasting. Methods of Rating Securities. Analysis of Securities. The Price of Stocks. Index.

GRAHAM, DODD, AND COTTLE—Security Analysis
Principles and Technique
By B. GRAHAM, The University of California, Los Angeles; S. L. DODD, Columbia University; and S. COTTLE, Stanford Research Institute. Fourth Edition.
792 *pp.*, 6 *x* 9, *illus.* (1962).....$13.95*t*†
An excellent book, comprehensively up-dated. Devoted to the pragmatic aspects of security analysis and security selection in context of professional investment management. Gets down to the basics of selecting and rejecting securities for investment purposes, and endeavors to show readers how to go about it. Substantial revision permits book to take a position on all major problems that exist today in the analysis and appraisal of common stocks. A very valuable book for anyone interested in the investment of securities.
CONTENTS—Survey and Approach. Analysis of Financial Statements. Fixed-Income Securities. The Valuation of Common Stocks. Senior Securities with Speculative Features. Other Aspects of Security Analysis.

Credits and Collections

CHAPIN AND HASSETT—Credit and Collection Principles and Practice
By ALBERT F. CHAPIN, deceased; and GEORGE E. HASSETT, deceased. Seventh Edition.
589 *pp.*, 6 *x* 9, 44 *illus.* (1960).....$7.95*c*
A thorough revision of a standard in its field, this book covers the practical management of credits and collection in the financing, manufacturing, and wholesaling fields. It gives an understanding of the problems and scope of consumer credit. Grouping of chapters has been objectified along functional lines: Principles and Personnel; Sources of Information and Analysis Institutionalized; Financial Analysis; Protection and Redemption of Credit.
CONTENTS—THE FUNDAMENTALS OF CREDIT. Credit and Its Functions. The Credit Executive. The Organization and Function of Credit Departments in Business Organizations. Factors of a Satisfactory Credit Risk. Documents and Records of Credit Transactions. Documentary Credit. Activities of the National Association of Credit Management. CREDIT INVESTIGATION AND ANALYSIS. Investigating Credit Factors. Sources of Information. Operation and Services of the Bank Credit Department. Sales Finance and Factoring Companies. Trade Credit. Retail, Consumer, and Installment Credit. The General Agency—Dun & Bradstreet, Inc. Special Credit Agencies as a Source of Credit Information. Credit Interchange Service. Salesmen, At-

torneys, and Miscellaneous Sources of Information. ANALYSIS OF THE FINANCIAL REPORT. The Financial Report. Financial Statement Interpretation and Asset Analysis. Appraisal of Liabilities and Working Capital Analysis. Income Analysis. Ratios, Their Computation and Uses in Financial Analysis. Comparative Statement Analysis and Special Analyses. THE PROTECTION AND REDEMPTION OF CREDIT. Collections. Collection Tools. Collection Letters. Other Collection Aids and Problems. The Creditor's Legal Aids. The Insolvent Account. Bankruptcy. Adjustment Bureaus. Credit Insurance and Guaranties.

BECKMAN—Credits and Collections
Management and Theory
By THEODORE BECKMAN, The Ohio State University. Seventh Edition.
672 *pp.*, 6 *x* 9, 100 *illus.* (1962).....$8.50*c*

Covering the entire subject of credits and collection, this is the only book to date which discusses consumer, mercantile, and commercial bank credit in equal proportion. Emphasized is the management function in credits and collection, taking into consideration the social setting and economic effects. The 30 chapters are divided into seven parts, each preceded by a brief explanation of the chapter's purpose and how it is achieved. Obsolete or irrelevant material has been eliminated from this seventh edition unless it is of historical significance. Statistical and technological management material has been reinterpreted to coincide with the latest developments. All subject matter has been critically scrutinized and new significant developments have received special emphasis.

CONTENTS—Nature and Role of Credit. Nature and Scope of Credit Management. Management of the Consumer Credit-Granting Function. Management of the Business Credit-Granting Function. Investigation and Analysis of Mercantile and Bank Credit Risks. Management of the Collection Function. Management Control of Credit and Collection Operations. Appendix. Name Index. Subject Index.

Taxation

SMITH—Federal Tax Reform
The Issues and a Program
By DAN THROOP SMITH, Harvard University.
325 *pp.*, 5⅝ *x* 8⅜ (1961).....$7.00*i*
*McG-H Paperbacks Ed.**

Presents specific proposals for Federal tax reform based on a thorough analysis of the political, economic, and social factors affecting tax legislation. The reforms affect both businesses and individuals and make the tax law fairer, simpler, and less restrictive in terms of the nation's economic growth and development. Each proposal tightens the law in some respects and liberalizes it in others. Each is also substantially self-financing to make it fiscally acceptable regardless of the condition of the Federal budget. Discussed in detail is the tax treatment of such specific items of income and deductions as dividends, expense accounts, foreign income, depreciation, fringe benefits, pensions, and others. Reform programs included cover such areas as individual income tax, corporation income tax, trusts and estates, excise taxes, and capital gains and losses.

CONTENTS—The Nature of Taxation and the Objectives of Tax Policy. The Individual Income Tax. The Breadth of the Income Concept. Deductions for Individuals. Capital Gains and Losses. Depreciation. Corporate Income Taxation. Taxation of Corporate Mergers and Distributions. Special Problems in Taxation of Business Income. Taxation of Foreign Income. Estates and Trusts. Excise Taxes.

* *Available only through your local bookstore.*

Insurance

McGRAW-HILL INSURANCE SERIES

(Ins. Series)

Charles C. Center, Editor

Richard Heins, Editor
University of Wisconsin

Crist—Corporate Suretyship
Factory Mutual—Engineering Division—Handbook of Industrial Loss Prevention
Faulkner—Health Insurance
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Mowbray and Blanchard—Insurance
Patterson—Essentials of Insurance Law
Reed—Adjustment of Property Losses
University of Wisconsin Foundation for Insurance Education and Research—Insurance and Government
Winter—Marine Insurance

NATIONAL ASSOCIATION OF INSURANCE AGENTS—McGRAW-HILL BOOKSHELF

(Bkshelf. Nat. Assoc. of Ins. Agt.)

Elliott—Property and Casualty Insurance

ELLIOTT—Property and Casualty Insurance
By CURTIS M. ELLIOTT, University of Nebraska; Educational Consultant, National Association of Insurance Agents, Inc. *Bkshelf. Nat. Assoc. of Ins. Agt.*
200 *pp.*, 6 *x* 9 (1960).....$6.75*i*

The basic principles involved in the major types of property and casualty insurance—fire, automobile, marine, crime, accident and health, workmen's compensation, etc.—are thoroughly explained in this book from the agent's point of view. Stresses policy coverages in each field, with emphasis on the most common types of contracts. Reflects important modern developments such as multiple perils insured under single contracts. Insurance organization, legal aspects of contracts, marketing and distribution of insurance, and other vital topics are also discussed and illustrated with countless examples.

CONTENTS—Risk and Insurance. Property and Casualty Insurance Fields. Insurance Organization: The Carrier and the Agent. Legal Aspects of Insurance Contracts.

Fire Insurance. Automobile Insurance. General Liability and Workmen's Compensation. Other Important Property and Casualty Coverages. Multiple Line Insurance. Insurance Marketing Systems.

FAULKNER—Health Insurance

By EDWIN J. FAULKNER, President, Woodmen Accident and Life Company. *Ins. Series.*

636 *pp.*, 5⅜ *x* 8, 82 *illus.* (1960)....$9.25*c*

Comprehensive in coverage, this text is directed primarily to health insurance written by insurance companies. The book describes the function of health insurance as well as the organization, methods, and techniques of voluntary health insurers. Different methods of providing insurance against loss due to disability are also described. Practical and objective in approach, the text takes the reader through a logical sequence: the needs for health insurance, how the various kinds of contracts meet these needs, what the provisions of the contracts are, how the insurance is sold and underwritten, the benefits paid, the premium rates determined, and the reserves established. The book contains all new and significant material in the field: service-plan insurers, the content of the modern health insurance contract, the development of medical expense contracts, and the various kinds of group, blanket, and franchise contracts. In addition, the author describes new methods of distribution, modern underwriting techniques, current premium rate calculations and reserve requirements, the function of cooperative organizations, and information about the regulation and taxation of the business.

CONTENTS—The Functions of Health Insurance. Health Insurance Plans. Terms of the Contract. Terms of the Contract (continued). Medical-expense Contracts. Special Contracts. Group, Blanket, and Franchise Contracts. Types of Insurer. Distribution. Underwriting. Premium Rates. Reserves. Claims. Cooperative Organizations. Regulation, Taxation, and Investments. The History of Health Insurance. Trends and Conclusions.

HAMILTON AND BRONSON—Pensions

By JAMES A. HAMILTON and DORRANCE C. BRONSON, both The Wyatt Company, Washington, D. C. *Ins. Series.*

410 *pp.*, 5⅜ *x* 8 (1958).....$9.50*c*

In a nontechnical manner, this book covers the benefits and essential provisions of pension plans, the various methods of setting up plans, and costs of plans largely from an insurance point of view. It is geared to the needs of business executives, corporation lawyers, and insurance trust companies, and consultant personnel, as well as students in these fields who have little or no actuarial or technical background.

CONTENTS—The Place of a Pension Plan in an Employee-welfare Program. The Social Security and Railroad Retirement Acts—Their Relation to Private Pension Plans. Types of Benefits. Basic Provisions of a Pension Plan. Governmental Regulation. Advance Funding. Trust-fund Plans. The Group-annuity Plan. Other Financing Mediums. Actuarial Assumptions. Funding Principles. Cost of Benefits. Valuation. Negotiated Pension Plans. Widows' Benefits and Allied Protection. Public and Nonprofit Employee Plans. Profit-sharing Plans. Pension Plans in Canada. Trends.

CRIST—Corporate Suretyship

By G. W. CRIST, JR., formerly University of Florida. *Ins. Series.* Second Edition.

441 *pp.*, 6 *x* 9, 9 *illus.* (1950).....$7.50*c*

Here is a generalized treatment of the whole subject of corporate suretyship, including its purpose, intent, place in the economic and social structure, its acquisition, forms, rates, rules and regulations, as well as its present position and future promise. Much attention is given to fidelity bonding in its many aspects, since this comprises approximately half of the total business of corporate suretyship.

CONTENTS—The Development of Suretyship. The Parties to the Bond—Their Benefits, Their Rights, and Their Duties. Organization and Supervision of Surety Companies. Production. Losses. Reinsurance and Cosuretyship. Accounting and Statistics. Rates. Judicial Bonds. Fidelity-bond Covers. Fidelity-bond Underwriting. Fidelity-bond Claims. Blanket Bonds for Financial Institutions. Other Blanket Bonds for Financial Institutions. Bankers' Blanket Bonds. Forgery Bonds. Conclusion. Appendixes. Index.

FACTORY MUTUAL ENGINEERING DIVISION—Handbook of Industrial Loss Prevention

Recommended Practices for the Protection of Property and Processes against Damage by Fire, Explosion, Lightning, Wind, Earthquake

By FACTORY MUTUAL ENGINEERING DIVISION. *Ins. Series.*

960 *pp.*, 7¼ *x* 10, 203 *tables*, 634 *illus.* (1959).....$20.00*hb*

Based on the experience and research of a leading organization in fire protection engineering; tells how to protect industrial plants and processes against the destructive hazards of fire, explosion, wind, lightning, and earthquake. An invaluable guide for the industrial engineer or architect in planning new manufacturing plants or improving existing ones, for developers and installers of hazardous processes, and for plant management, plant engineers, and plant protection organizations in establishing and maintaining adequate standards of fire and explosion safety. The methods outlined are practical, specific, and based on successful use in scores of plants. Engineering tables and diagrammatic sketches give complete data in a clear, how-to-do-it manner. In 74 fact-filled chapters, the book covers automatic sprinkler protection, fire pumps, and carbon-dioxide, foam, and dry chemical extinguishers. In addition, detailed coverage is given to electrical and heating installations, handling flammable liquids and hazardous chemicals, and the special protection problems of a number of specific industries. Other chapters deal with wind forces, roof coverings, chimneys and stacks, towers, and recommended practices for earthquake-resistant construction.

MACLEAN—Life Insurance

By JOSEPH B. MACLEAN, formerly, Mutual Life Insurance Company of New York. Ninth Edition.

640 *pp.*, 5⅜ *x* 8, 2 *illus.* (1962).....$7.95*c*

This book explains, for the general reader, the fundamentals, principles, and practices of life insurance and the life insurance business. In this new edition the author covers accident and sickness insurance (in life insurance companies). This book is regarded as one of the most authoritative in the field. It is frequently cited in law suits as the leading authority. It is sufficiently complete to give a clear conception of the business as a whole but not so exhaustive as to be of use only to the specialist. Its purpose is to present a practical and largely nontechnical explanation of this business to meet the requirements of college students, of employees in life insurance companies, and of other students of the subject.

CONTENTS—Preface. ORDINARY INSURANCE. Basic Principles. Basic Types of Policies. Other Types of Policies: Annuities. Mortality Tables. Premium Rates.

The Policy Reserve. Dividends. The Policy—Obligations of the Insured. The Policy—Obligations of the Insurer. The Policy—Other Provisions. Disability and Accidental-Death Benefits. Insurability—Standard Insurance. Insurability-Substandard Insurance. Investment of Funds. Financial Statements. Organization of Life-Insurance Companies. GROUP AND INDUSTRIAL INSURANCE. Group Life Insurance. Group Annuities. Industrial Insurance. ACCIDENT AND SICKNESS INSURANCE. Accident and Sickness Insurance. INSURERS OTHER THAN LIFE INSURANCE COMPANIES. Savings-Bank Life Insurance. Fraternal Life Insurance. Government Life Insurance. LEGAL ASPECTS. Governmental Regulation. Taxation. Application of Legal Principles. HISTORICAL REVIEW. Historical Development of Life Insurance in the United States to 1900. Life Insurance in the Twentieth Century.

MICHELBACHER—Multiple-line Insurance

By G. F. MICHELBACHER, formerly Great American Indemnity Company. With the Cooperation of a Group of Specialists. *Ins. Series.*

643 *pp.*, 5⅜ *x* 8, 15 *illus.* (1957)....$9.50*c*

Here the author covers the broad field of non-life insurance which was formerly treated in its separate parts. Among the recent developments covered are: the broadening of the field of casualty and fire and marine insurers to the writing of multiple-line insurance; rating problems; governmental regulation; and in general the new problems incident to the shift from narrower compartments to multiple lines. The contributors to this volume include: Ralph H. Blanchard, Rexford Crewe, Thomas O. Carlson, H. O. Fichte, H. W. Heinrich, Arthur S. Kuenkler, L. H. Longley-Cook, Franklin J. Marryott, N. E. Masterson, Seymour E. Smith, C. A. Sullivan, Thomas F. Tarbell, and Leslie F. Tillinghast.

CONTENTS—Preface. The Multiple-line Idea. Multiple-line Covers. The Insurance Transaction. Insurers. Rate Making—Manual Rates. Rate Making—Merit Rates. Reserves. Audits of Exposure. Underwriting. Distribution of Shock Losses. Moral Hazard. The Claim Department. Cooperative Organizations. Production. Advertising. Engineering. Statistics. The Interpretation of Statistics. The Financial Statement. Organization of Insurers. Capital Structure of Stock Insurers. Development of Governmental Supervision. Present Systems of Governmental Supervision. The Future. Index.

MOWBRAY AND BLANCHARD—Insurance

Its Theory and Practice in the United States By ALBERT H. MOWBRAY and RALPH H. BLANCHARD, formerly Columbia University. *Ins. Series.* Fifth Edition.

616 *pp.*, 5⅜ *x* 8, 5 *illus.* (1961)....$7.95*c*

Covers both private and governmental insurance and deals with the problems of risk, insurance policy contracts, types and problems of insurers, state supervision, social insurance and risk management. The approach is broad with an emphasis on the basic unity of insurance; it thus prepares the student for more specialized lines of study. This edition is a thorough revision and modernization of the previous editions.

CONTENTS—Risk. Types of Hazard and the Law of Large Numbers. Insurance. Prevention of Loss. The Insurance Mechanism. Fundamental Contract Principles. Form of the Contract. Common Contract Provisions. Fire-insurance Contracts. Marine-insurance Contracts. Inland-Marine-insurance Contracts. Liability and Compensation. Liability-insurance Contracts. Workmen's-Compensation-insurance Contracts. Automobile-insurance Contracts. Bonds. Homeowner's Contracts. Miscellaneous Property-insurance Contracts. Life-insurance and Annuity Contracts. Disability-insurance Contracts. Group Insurance. Types of Insurer. Selecting an Insurer. The Insurance Market. Premium Rates. Reserves. Insurance Finance. Underwriting. Adjustment of Losses. Insurer Organization. Cooperative Organizations. Theory and Development of Governmental Supervision. Methods of Governmental Supervision. Social Insurance. Risk Management. Bibliography. Sources. Index.

PATTERSON—Essentials of Insurance Law

By EDWIN W. PATTERSON, formerly Columbia University. *Ins. Series.* Second Edition.

558 *pp.*, 5½ *x* 8 (1957).....$8.95*c*

Combines a nontechnical summary of legal doctrines with a readable account of their dependence and their influence upon the principles and practices of the insurance business. Discusses all of the more important types of insurance contracts—life, fire, marine and casualty—as well as state regulation of insurance and the powers of insurance agents.

CONTENTS—State Control of the Insurance Business. The Making of Insurance Contracts. Insurable Interests in Property. Insurable Interest in Life Insurance. The Cancellation, Surrender and Transfer of Insurance Contracts. The Event Insured Against and Excepted Causes of Loss. Warranties and Conditions Affecting the Risk. Warranties as Modified by Judicial Interpretation and by Statute. Representations by the Insured. Concealment by the Insured. Waiver Estoppel and Election by Insurer.

REED—Adjustment of Property Losses

By PRENTISS B. REED. *Ins. Series.* Second Edition.

667 *pp.*, 5½ *x* 8, 28 *illus.* (1953)....$9.95*c*

Covers the whole field: the organization and operation of the groups and individuals who do the work of adjusting; the principles that guide the adjuster; what the adjuster should do from the time a loss is assigned to him for adjustment until he finishes the final papers covering its settlement or turns it over to an attorney; how controversies between insurance companies are settled or arbitrated; the essential duties of any person who may be employed to represent a policyholder.

CONTENTS—Preface. Introduction. Principles. Procedure. Investigating and Reporting. The Insured and Insurable Interest. Application of Insurance, Contribution, Apportionment. Requirements in Case of Loss. Mortgages and Other Payees. Buildings. Rents, Rental Value, and Leasehold. Personal Property in Use. Stocks of Merchandise. Salvage and the Use of Salvors. Books and Records. Profits and Commissions. Bailee Risks. Business Interruption. Objectives and Methods. Bibliography. List of Appendixes. Index.

RUDY—How to Sell More Insurance

Fire, Casualty, Surety, and Marine By WILLIAM R. RUDY.

210 *pp.*, 6 *x* 9 (1962).....$6.50*t*

Produced under the sponsorship of the National Association of Insurance Agents, this practical book presents hundreds of sound, tested selling techniques used by the nation's top insurance agents. Here you will find practical selling pointers—openers, closers, answers to objections—complete presentations. The book covers every general line of insurance, explains the advantages of specific policy types, and pinpoints the biggest market potential for each. Fully details the best sources of prospects for new business; signs to watch for in cutting fire rates; new ways to lick competition; how to make your direct mail, window displays, and outdoor signs more effective. In addition, the book presents new ideas on cutting office overhead, building your prestige as an agent, and getting more mileage out of your advertising dollar.

CONTENTS—To the New Agent: The Profession Is a Job. Finding Prospects. When Should the Established Agent Bring in a New Man? More Business-Building Ideas. Automobile, the Mainstay. Homeowners': Best Buy in Insurance. Health Insurance: The Income Exposure. Crime Will Pay—If You Package It. The Price of Infidelity. Selling to Large Companies. Liability Cover for a Business. Contract Bonds: Big Premiums for Good Service. Fire Insurance: Commercial and Industrial Risks. How Safety Engineers Can Cut Fire Rates. Business Interruption. Commercial-Property Coverage. Special

Multi-Peril Policies. A Look at Marine Opportunities. Coverage for the Shipper: Transportation Insurance. Insurance for Trucking Companies: Truckman's Legal Liability. Premium Budgeting Helps Close Good Account Sales. A Quote on Glass Insurance. Accounts Receivable, the Ideal Door-Opener. Bank-Agent Auto Plan: A Service and a Sales Technique. Surveys for the Average Prospect. Advertising the Agent.

UNIVERSITY OF WISCONSIN FOUNDATION FOR INSURANCE EDUCATION AND RESEARCH—Insurance and Government

Edited by CHARLES C. CENTER and RICHARD M. HEINS, The University of Wisconsin. *Ins. Series.*

450 *pp.*, 6 *x* 9, 9 *illus.* (1962) $9.95c

This text brings together current thought on the course and development of insurance regulation and introduces important authoritative insights into the current and future problems in this field. It contains a composite and comprehensive amount of material on the subject of insurance regulation and carefully examines the many new important problems which must be solved to provide the stable and efficient regulatory structure needed by the private insurance industry for maximum growth and service in the public interest. Divergent views of national leaders are fully presented. Contrasting opinions are represented in an impartial and open examination.

CONTENTS—THE ECONOMICS AND PRINCIPLES OF INSURANCE SUPERVISION: by Robert E. Dineen, Executive Vice President, Northwestern Mutual Life Insurance Company; Clifford R. Proctor, Assistant Counsel, and H. Daniel Gardner, Attorney, Northwestern Mutual Life Insurance Company. CONCENTRATION OR DECONCENTRATION OF THE LIFE INSURANCE BUSINESS: Part A by Robert A. Hicks, Head, Antitrust Division, U. S. Department of Justice; Part B by William A. Berridge, Economist, Metropolitan Life Insurance Company, New York. INCORPORATION OF INSURANCE COMPANIES: Part A by Alfred C. Bennett, New York Insurance Department, Albany; Part B by Richard M. Heins, School of Commerce, University of Wisconsin.

WINTER—Marine Insurance

By WILLIAM D. WINTER, Atlantic Mutual Insurance Company. *Ins. Series.* Third Edition.

531 *pp.*, 5½ *x* 8, 26 *illus.* (1952) $9.50c

For students, bankers, merchants, and shippers, as well as for marine underwriters or loss adjusters. Not only does the book cover the principles and practice of marine insurance, but particularly for the student, it considers the history of the business and the fundamentals of foreign trade, shipbuilding, and ship loading.

CONTENTS—Historical Background. Physical Geography and Marine Insurance. Commercial Geography and Marine Insurance. Commercial Documents. Ships and Shipbuilding. Introduction to Marine Insurance. Factors in Marine Underwriting. Brokers and Marine Agents. The Contract of Marine Insurance. The Policy—Subject and Assured. The Policy—Scope of Risk and Valuation. The Policy—The Perils Clause. The Policy—Miscellaneous Provisions. Institute Cargo Clauses as an Underwriting Problem. Specific Cargo Risks. Hull Insurance. Special Hull Forms—Large Vessels. Special Hull Forms—Small Craft. Freight Insurance. War Insurance. Reinsurance. Particular Average—Cargo. Particular Average—Hull and Freight. Total Losses—Collision Liabilities. General Average. Salvage—Salvage Problems. Loss—Statistics. A Selected List of Reference Books. Appendixes. Index.

Real Estate

ACTION SERIES IN HOUSING AND COMMUNITY DEVELOPMENT

(Action Series in Housing & Common. Dev.)

Banfield and Grodzins—Government and Housing in Metropolitan Areas
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Winnick—Rental Housing

DYCKMAN AND ISAACS—Capital Requirements for Urban Development and Renewal

By JOHN W. DYCKMAN, University of Pennsylvania; and REGINALD R. ISAACS, Harvard University, with the assistance of PETER R. SENN. *ACTION Series in Housing & Common. Dev.*

334 *pp.*, 5¼ *x* 8, 5 *illus.* (1961) $11.50c

Provides a comprehensive view of the economics of urban development and renewal, prepares a national bill of goods for renewal and development, and assesses the sources of funds for these purposes. Many of the issues posed in recent policy reports and goal statements of such groups as the Rockefeller Brothers Fund Committees and the Committee for Economic Development are discussed and these issues are presented in terms of their broad policy implications.

CONTENTS—Problem Areas in an Economy of Abundance. The Nation Approaches Renewal. Urban Renewal in a Growing Economy. Financing Renewal Needs from the Case Study of a Metropolitan Area. Case City—a Model for Planning. Case City Implications for Nationwide Capital Requirements. The Limits of Renewal: National Economic Growth. Financing Urban Renewal: I—Taxing and Current Spending. Financing Urban Renewal: II—Problems of Debt. Conclusions.

HOAGLAND—Real Estate Principles

By HENRY E. HOAGLAND, Ohio State University. Third Edition.

538 *pp.*, 6 *x* 9 (1955) $7.95c

Describes the relations of economics, business, finance, law, engineering, and government to real estate. In the second edition, chapters are added covering such subjects as a housing policy for America, rent control, and housing provisions for veterans. Much statistical material is included, and the experience of governmental agencies is appraised.

CONTENTS—Urban Land Development. Ownership of Land. Private Rights in Real Estate. Title to Real Estate. Acquisition and Transfer of Title to Real Estate. Deeds and Their Use. Mortgages. Other Liens on Estate. Deeds and Their Use. Mortgages. Other Liens. Leases. Residential Real Estate. Market for Real Estate. Real Estate Values. The Appraisal Process. The Real Estate Business. Real Estate Salesmanship. Real Estate Advertising. Development Projects. Setting Value. Lots. Building Construction. Property Management. Sources of Funds for Real Estate Financing. Miscellaneous Financing Plans. Real Estate Investments.

City Planning and Zoning. Texts and Assignments. Landlord's Lawsuits. Rent Control and Public Housing. Federal Government Aids to Real Estate Development. Housing Assistance to Veterans. Real Estate Boards. The Real Estate Office. Index.

BANFIELD AND GRODZINS—Government and Housing in Metropolitan Areas

By Edward C. Banfield and Morton Grodzins, University of Chicago. *ACTION Survey in Housing & Community Dev.*

191 *pp.*, 5½ x 8, 6 *illus.* (1958) $4.50

Shows how the structure of metropolitan government affects the quality, quantity, and price of housing, and suggests changes in the structure to improve the situation. Discusses the problem of metropolitan organization; analyzes the view of informed persons; examines major remedies for the ills of metropolitan government as they affect housing; sets forth conclusions; and offers a "model for action" looking to governmental change on a scale needed for improved housing and which is possible in terms of political realities. The book also considers the distribution by class and race between central cities and suburbs. It emphasizes the relationship of metropolitan and national problems, and shows how the politics of financing new housing is a greater impediment than economic factors.

Contents—Introduction. The Structure of Government in Metropolitan Areas. The Logic of Metropolitan Government. The Politics of Metropolitan Government. The Lack of Metropolitan Organization in Metropolitan Areas. Deficiencies of Existing Remedies. The Machinery of Legal Power of Local Government. The Deficiencies and Inequities. The Private of City Leadership. Certain Features of Governmental Reorganization. Conclusion.

FOOTE, ABU-LUGHOD, FOLEY, AND WINNICK—Housing Choice and Housing Constraints

By Nelson N. Foote, General Electric Company, Janet Abu-Lughod, Mary Mix Foley, and Louis Winnick. *Action Survey in Housing & Economic Dev.*

450 *pp.*, 5½ x 8, 18 *illus.* (1960) . . . $12.50

Provides a clear insight into the housing preferences of American consumers and the factors which determine these preferences. Special attention is given to the ways in which the family life cycle influences the choice of location and specific type of structure and facilities desired. The roles of builders, bankers, realtors, government officials and bureaus, and consumers in modern housing are outlined.

Contents—Part One: Economic Constraints. The Housing Consumer: Resources of Families. The Housing Consumer in 1980. The Supply of Consumer Expenditures, Income and Savings. Part Two: Consumer Strategies. The Housing Pattern to Interpret Them. The Housing Pattern to Interpret Them. The Housing Pattern to Interpret Them

to More Sales. Self-training to Become a Master-salesman. Ethics That Pay. A Million Years of Home-finding.

MEYERSON, TERRETT, AND WHEATON —Housing, People, and Cities

By MARTIN MEYERSON, Joint Center for Urban Studies, Harvard and MIT; BARBARA TERRETT, Renjerdel, and WILLIAM L. C. WHEATON, University of Pennsylvania. *ACTION Series in Housing & Commun. Dev.*

386 *pp.*, 5⅜ *x* 8, 18 *illus.* (1962)....$9.75*t*

This thorough study combines the findings of the country's outstanding experts in the field of urban housing. It reviews and relates the specialized studies which preceded it, and proposes courses of action for the future. The book brings you abreast of recent developments in such vital areas as: new markets for the 1960's and 1970's—profitable rehabilitation—consumer patterns and preferences—opportunities in prefabrication—racial discrimination in housing—relocation for urban renewal—renting versus owning—caring for low-income groups—codes and regulations—improving federal credit aids—programming and planning for urban renewal—tax roadblocks—the future and community development. The book is unique in its attention to both the social problems and the programs of action for the citizen group, the consumer, the businessman, and the government official.

CONTENTS—THE SETTING. 1. Housing and Community Development. 2. Housing and the National Economy. 3. Housing and the Market. THE CONSUMER. 4. The Economic Behavior of Housing Consumers. 5. The Disfranchised Consumer. 6. What the Consumer Wants. THE PRODUCER. 7. Housing Production: Actors and Actions. 8. Labor's Role in Homebuilding. 9. Industrializing the Housing Industry: Design, Materials and Methods. THE INVESTOR. 10. Residential Finance. 11. Rehabilitating the Housing Stock. 12. The Potential Contribution of Rental Housing. THE FEDERAL GOVERNMENT. 13. Federal Credit. 14. The Future of Federal Policy. 15. Politics and Pressure Groups. THE COMMUNITY. 16. Municipal Programs for Urban Development. 17. Metropolitan Organization and Residential Expansion. 18. Opportunities.

NASH AND COLEAN—Residential Rehabilitation

Private Profits and Public Purposes

By WILLIAM W. NASH, and directed by MILES COLEAN, Harvard Graduate School of Design. *ACTION Series in Housing & Commun. Dev.*

272 *pp.*, 6 *x* 9, 12 *illus.* (1959).....$8.00*i*

This book acquaints the private investor with the methods, problems, and potential profits of residential rehabilitation. In addition, it examines the contribution of rehabilitation to public and private urban renewal and housing programs, and suggests new directions in public policies. With its wealth of practical cases, this book can serve as an analytic guide to the feasibility of private rehabilitation. Its treatment from the point of view of the neighborhood and citywide pattern of supply and demand makes it invaluable in programming public rehabilitation.

CONTENTS—The Background. Prestige Rehabilitation. Rehabilitation for Middle-Income Families. Locating and Estimating Rehabilitation Projects. The Financing Problem. Rehabilitation As Part of Public Programs. Expanding the Volume of Rehabilitation. Appendices: Other Case Materials. Studies of the Economic Feasibility of Rehabilitation.

WINNICK—Rental Housing

Opportunities for Private Investment

By LOUIS C. WINNICK, New York City Planning Commission. *ACTION Series in Housing & Commun. Dev.*

295 *pp.*, 5⅜ *x* 8 (1958).....$8.50*i*

This book discusses the consumer demand for rental housing and what may be done to meet it. It tells how government policy has discouraged construction of rental housing, how investors have fared, and what changes in policy and investor attitudes can increase the supply of adequate rental housing.

RATCLIFF—Urban Land Economics

By RICHARD U. RATCLIFF, University of Wisconsin.

533 *pp.*, 6 *x* 9, 10 *illus.* (1949).....$8.50*c*

A comprehensive and systematic explanation of the urban land market and its mechanisms. It shows how this market functions in translating the ever-changing space needs of men and society into an organized but shifting land use structure.

CONTENTS—Preface. The Institutional Aspects of Real Property. The Economics of Urbanization. The City as a Social Complex. Demand for Housing. Demand for Nonresidential Space. The Construction Industry. The Building Process. Urban Land Credit. The Home Mortgage Market. Urban Land Market Functions and Organization. The Housing Market. Land Income and Value. City Growth and Structure. Urban Land Policies. The Economics of Housing Policy. Index.

RATCLIFF—Real Estate Analysis

By RICHARD U. RATCLIFF, University of Wisconsin.

342 *pp.*, 6 *x* 9, 12 *illus.* (1961).....$7.95*c*

This book is a new departure in the materials of real estate education. It is in tune with modern trends in business education in its focus on the analytical approach to decision making. Recognizing the critical role of the real estate investor in the city-building process, the author guides the student toward sound investment decisions from both the individual and the community standpoint.

CONTENTS—Introduction. The Urban Setting. The Physical Foundations of Real Estate Value. The Legal Dimensions of Real Estate. Equity Investment. Real Estate Credit. Problems of Home Investment. Managing the Investment. Real Estate Market. Construction. Urban Dynamics. INDEX.

PEASE AND CHERRINGTON—Mortgage Banking

Edited by ROBERT H. PEASE, Draper and Kramer, Inc., and HOMER V. CHERRINGTON, Ohio University. Prepared under the direction of the Mortgage Bankers Association of America.

445 *pp.*, 6 *x* 9, 51 *illus.* (1953)....$8.50*cL*

Designed for courses in real estate finance and mortgage banking, and for people in the mortgage banking industry. It offers a thoroughly objective approach to the problem of mortgage banking. The operations of a mortgage lending business are completely analyzed as to purpose, method, and result.

CONTENTS—Development of Mortgage Banking. Development of Mortgage Law. Interest Rates. Economic Cycles and the Mortgage Market. Appraisals for Mortgage Lending. Appraisals for Mortgage Lending (cont.). Underwriting the Mortgage Risk. Underwriting the Mortgage Risk (cont.). Financing of Industrial Companies and Shopping Centers. Construction Loans. Mortgage Loan Investors. Mortgage Loan Investors (cont.). Selling and Closing the Loan. Servicing Mortgage Loans. Servicing Mortgage Loans (cont.). Acquiring New Mortgage Business. Operating a Mortgage Banking Business. Mortgage Statistics and Research.

BRYANT—Mortgage Lending

By WILLIS R. BRYANT, President, Bryant-Johnson Mortgage Company, San Francisco. Second Edition.

432 *pp.*, 6 *x* 9, 13 *illus.* (1962)....$8.95*cL*

This book provides an integrated and comprehensive introduction to mortgage lending,

mortgage banking, the mortgage market and all related activities. There is information on procedures and an appraisal of the social significance of mortgage lending. The new edition incorporates recent developments in the mortgage lending industry plus up-to-date statistical data. The author reviews the basic economic reality underlying mortgage lending, mortgage financing, and the mortgage market. This review includes a description of factors influencing the allocation of savings, the investment policies of investors and the influence of the Federal Government on the mortgage market. There are brief explanations of each housing act since the original Housing Act of 1934. An Instructor's Handbook contains over 900 questions and answers covering the entire text, including a mid-semester and a final examination.

CONTENTS—Preface. Acknowledgements. The Fundamental Aspects of Mortgage Lending. Sources of Funds for Mortgage Lending. Organization and Control of Mortgage Lending Operations. Loan-Application Procedures. Personal Interview with Borrower and Credit Analysis of Borrower. Appraisal of Real Estate Security. Legal Aspects of the Mortgage. Development of New Business. Insured Mortgages—The Federal Housing Administration Program. The Veterans Administration Loan Program. The Loan Administration Program. The Delinquent Loan Collection and Servicing Program. Glossary of Terms Most Frequently Used in Mortgage Lending. Index.

De HUSZAR—Mortgage Servicing

By WILLIAM I. DE HUSZAR, Dovenmuehle, Inc. Prepared under the auspices of the Mortgage Bankers Association of America. 201 *pp.*, 6 *x* 9, *illus.* (1954).....$6.00*iL*

Helps both large and small companies service mortgage loans more efficiently, for greater profit. Brings together a description of the principal procedures and operations in the servicing side of mortgage lending. Contains tested, helpful information on all departments and functions; shows how to make best use of all possible economies.

CONTENTS—Fundamentals of Servicing. Servicing Problems. Servicing Personnel. Cashier Department. Accounting Department. Collection Department. Insurance Department. Tax Department. Statistical and Cost Accounting Records Customer Relations. Coordination and Internal Control.

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Dr. Steuart Henderson Britt, Editor
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Wright and Warner—Speaking of Advertising
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DUNN—International Handbook of Advertising

Edited by S. WATSON DUNN, Univ. of Wisconsin. *Series in Int'l Dev.*

In Press

This experienced author of books on advertising has compiled a distinguished collection of articles on international advertising organization and procedures in a comprehensive reference work. The *Handbook* is divided into three parts: Principles and Procedures of International Advertising, written by such internationally known authorities as Authur Nielsen, Arno Johnson, Rudolf Farner, Colin McIver and many others; How to Advertise in Specific Markets, written by experts in the particular countries and covering the United States and Canada, Latin America, Europe and the Middle East, Africa and Asia and Australasia; and How International Advertising is Organized. A Foreword to the *Handbook* has been written by Samuel Meek, who built the international operations of the J. Walter Thompson Company and who is generally acknowledged to be the dean of international advertising.

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STANLEY—Handbook of International Marketing
How to Export, Import, and Invest Overseas
By ALEXANDER O. STANLEY, International Marketing Institute.
680 *pp.*, 6 *x* 9, *illus.* (1963).....$17.50*hb*
Written in a practical, how-to pattern throughout, Mr. Stanley has provided in this *Handbook* a compendium of tested practices in overseas marketing. Employing a step-by-step formula to assist the reader to understand the parallels and differences between domestic and international marketing techniques, he lays down precise guidelines to enable private enterprise to participate profitably in overseas markets. Following an introductory chapter on the stake in international trade, there are 17 chapters, each of which reviews a key management function in depth. The Handbook bridges the gap between the policy-making and operational echelons to make the organization of men, money, and machinery into an effective operational task force for overseas trade.
CONTENTS—The Stake in International Trade. Organizing the International Division. How to Set Up the Commercial Intelligence Division (CID). How to Measure Overseas Markets. How to Read an International Report. How to Stretch Your International Communications Dollar. How to Stretch Your International Transportation Dollar. Around the World with 5 Billion Advertising Dollars. Know Your Overseas Sales Channels. Know Your Export Credit Terms. Getting the Cash for Your Overseas Sales. Financing Your Overseas Business Operations. Guard Your Industrial Property Rights Abroad. International Licensing Agreements Can Make or Break You. What You Should Know About Common Market Patterns. Pin-pointing the Overseas Investment Pattern. Imports Can Pay Off. Guidelines to Government Aids.

Marketing Principles

CANNON AND WICHERT—Marketing
Text and Cases
By J. T. CANNON, IBM Corporation, and J. A. WICHERT, Marketing Consultant, San Francisco.
620 *pp.*, 6 *x* 9, *illus.* (1953).....$7.95*c*
Combines traditional marketing principles with actual business cases. The numerous cases placed throughout the book give the student an opportunity to apply what he has learned to actual business problems. The cases are all post-war studies, collected from a variety of companies of all sizes. The problems presented cover all phases of marketing activity. They include studies of manufacturers, wholesalers, and retailers in both the consumer and the industrial field.
CONTENTS—Preface. Introduction. What Is Our Company? What Have We to Sell? Who Buys Our Products? Business We Work With. Marketing Decisions We Must Make. Human Relations in Our Marketing Activities. Administration of Our Marketing Program. Marketing Tools. Index.

HEPNER—Modern Marketing
Dynamics and Managements
By HARRY W. HEPNER, Syracuse University.
599 *pp.*, 6 *x* 9, *illus.* (1955).....$7.50*c*
Student Workbook (1955).....$2.40*c*
In this descriptive orientation to the field of modern marketing the basic trends and influences that bear on marketing practices and the recognition of management's relations to marketing are emphasized. The book is distinctive in regard to its lists of "sources" such as trade journals and associations that deal with the topics in each chapter. Each chapter opens with a statement of several marketing principles about which the alert, informed person should be aware in this era of business change. Illustrations with human interest, such as cartoons, add to the ease and enjoyment of the book.
CONTENTS—INTRODUCTION. MARKETING IS DONE IN A DYNAMIC ECONOMY. POSSIBLE MARKETS FOR OUR PRODUCT. THE PRODUCT THAT WE WANT TO SELL. CHANNELS OF DISTRIBUTION THAT MIGHT BE USED TO SELL OUR PRODUCT. PROMOTING THE SALE OF OUR PRODUCT THROUGH DEALERS. PERSONAL SELLING OF OUR PRODUCT. MANAGEMENT RESPONSIBILITIES IN MARKETING. MARKETING AS YOUR CAREER. SOURCES OF INFORMATION. Author Index. Subject Index.

BROWN, ENGLAND, AND MATTHEWS—Problems in Marketing
By MILTON P. BROWN, WILBUR B. ENGLAND, and JOHN B. MATTHEWS, JR., all of Harvard University. Third Edition.
862 *pp.*, 6 *x* 9, *illus.* (1961).....$8.95*c*
This highly successful Harvard Business School Case Book is made even more useful as a teaching vehicle in its new Third Edition. Although the outline of the book is similar to that of the Second Edition, thirty-seven of the seventy-six cases are new and some of the older cases have been updated. The new cases typically provide information in greater detail not only on each company's marketing operation but also on the other functional areas which impinge on and are affected by the company's marketing strategy.
CONTENTS—Preface. General Introduction. Marketing and the Case Method. The Influence of the Consumer. Demand Concepts in Marketing Decisions. Product Planning and Policy. Channels of Distribution. Promotion. Advertising Policy. Management of Personal Selling. Pricing. The Use of Marketing Research. The Marketing Mix. Appendix—Marketing Arithmetic. Alphabetical List of Cases.

LEIGHTON AND THAIN—Canadian Problems in Marketing
By DAVIS S. R. LEIGHTON and DONALD H. THAIN, both of the Univ. of Western Ontario.
872 *pp.*, 9½ *x* 6¾ (1963).....$8.95*c*
Discusses all aspects of Canadian marketing problems. Every phase of marketing is dealt with and most of the book is devoted to actual cases drawn from Canadian business. Explanatory text on all divisions of the subject and special notes providing background information for consideration of the cases are included.

McNAIR AND HANSEN—Readings in Marketing
By MALCOM P. McNAIR and HARRY L. HANSEN, Graduate School of Business Administration, Harvard University. Second Edition.
582 *pp.*, 6 *x* 9, *illus.* (1956)
Cloth-bound $6.95*c*
Soft-cover Ed. $4.95*c*
Provides background material which not only includes some factual information for marketing courses but which also furnishes a setting

and perspective for the study of a text or casebook and a stimulus to thought and imagination. Emphasis is given to marketing structure and choice of distribution channels. There are selections from such sources as: *Survey of Current Business*, American Marketing Association, U.S. Bureau of the Census, and *Business Week*.

CONTENTS (with authors of articles)—Preface. OUTLINE OF READINGS. THE MARKETING JOB, THE MARKET, AND SOME DEFINITIONS. Paul Mazur. Arno H. Johnson. CUSTOMERS AND THEIR MOTIVATIONS. Pierre Martineau. Tobé Coller Davis. John H. Platten, Pr. MERCHANDISING OR PRODUCT PLANNING AND MANAGEMENT. Alfred H. Daniels. Charles H. Kline. F. Beaman Todd and Irving Scharf. MARKETING STRUCTURE AND CHOICE OF DISTRIBUTION CHANNELS. Solomon Ethe and G. Clark Thompson. Edwin H. Lewis. Charles A. Livesey. James Dacon Scott. Malcolm P. McNair. Herbert Brean. ELEMENTS OF THE SALES PROGRAM. Neil H. Borden. Ray C. Brewster. Harry R. Tosdal. PRICING. Malcolm P. McNair and Richard S. Meriam. Howard Clark Greer. Joel Dean. Robert W. Austin. GENERAL MANAGEMENT CONTROL. Allen W. Rucker.

STANTON—Fundamentals of Marketing

By WILLIAM STANTON, Univ. of Colorado. *Series in Mktg. & Advtg.*

In Press

For introductory undergraduate or survey graduate courses in marketing. This book provides an analytical and basic understanding of how and why marketing operates in American business today. Its central theme is that marketing is a total system of business action rather than a fragmented assortment of functions and institutions. It is written largely from the micro viewpoint of marketing executives in an individual firm, either a manufacturer or a middleman with emphasis given to the consumer market and the industrial market. Most of the discussion is devoted to marketing of manufactured products and services. Brief cases and discussion questions follow each chapter.

WEISS—Merchandising for Tomorrow

By E. B. WEISS, Doyle, Dane & Bernbach, Inc.

372 *pp.*, 6 *x* 9 (1961).....$7.95*i*

Clearly analyzes today's important marketing trends, and gives a quick-reference collection of 500 tested and adaptable plans and ideas. Covers selling, promotion, and advertising, including treatments of retail, wholesale, and manufacturers' operations. Discusses such topics as the revolt against self-service; new trends in scientific merchandising; contests, premiums, coupons, samples, and special offers; recommended approaches for strengthening merchandising to the trade; fixturing, display, demonstration, self-service, and self-selection; and more. Analyzes policies of companies that are leaders in their fields, explaining selling through chains; leased-department operations; internal competition; consumer giveaways; distribution trends, and other essential subjects.

CONTENTS—I. BLUEPRINT OF MERCHANDISING STRATEGY. Revolt against Self-service. How Much Internal Competition? The Trend toward Giant Retailing. Growth of Leased-department Operations. Brand Marketing Becomes International. The Changing Nature of Mass Retailing. Distribution Patterns Go Topsy-turvy. Nonmerchandising Income for Giant Retailers. The Decline of Giveaway Merchandising. The Diminishing Role of the Salesman. The Shrinking Number of Chain Store Units. Development of the Mass Recreational Center. The Era of Presold Store Brands. Cooperation and Joint Merchandising. Cooperative Advertising Reevaluated. Diminishing Returns from Open Display. Factory Financing of Inventory. Sophisticated Shoppers and the Discretionary Dollar. Giant Wholesaling to Match Giant Retailing. Scientific Merchandising through Electronics. A Roundup of Secondary Merchandising Trends. A Grab Bag of Predictions about Retailing in 1965. Fifty Areas for Manufacturer Cooperation with Retailers. II. 500 MERCHANDISING IDEAS. The Product. Packaging. Pricing. Distribution: Markets, Outlets, Salesmen, Distributors. Merchandising to the Trade: Inventory, Co-op, Contests, Sales Training, Deals, Specific Offers. Point of Sale: Fixturing, Display: Demonstration, Self-service, Self-selection. Merchandising to the Consumer: Contests, Premiums, Coupons, Sampling, Special Offers. Merchandising Strategy.

WRIGHT AND WARNER—Speaking of Advertising

By JOHN S. WRIGHT, Northwestern Univ., and DANIEL S. WARNER, Univ. of Washington. *Series in Mktg. & Advtg.*

495 *pp.*, 6⅜ *x* 9¼, *illus.* (1963)....$6.50*c*

Soft-cover Ed. $4.95*c*

A collection of readings about advertising by well-known educators and practitioners. Their timely opinions and fresh viewpoints reflect on advertising as a social institution, a marketing function, a persuasive process, a business, and a profession. These papers provide a clearer picture of advertising and all its ramifications, and help the reader gain an appreciation of the personalities and philosophies of men who have directly or indirectly contributed to current advertising thought and its relation to business, the process of mass communication, and the public interest. Each selection is prefaced by a picture of the contributor and a biographical sketch which easily identifies the author and explains why he is amply qualified to discuss the subject about which he writes. Contributors include: Jacques Barzun, William Bernbach, Leo Burnett, Edward C. Bursk, John Crichton, Alfred A. Kuehn, Darrell Blaine Lucas, Pierre D. Martineau, Newton N. Minow, Leo Rosten, Frank Stanton, Edward Weeks.

CONTENTS—I. . . . and Business Management. II. . . . and Mass Communications. III. . . . and Public Interest.

Marketing Campaigns

FLADAGER—The Selling Power of Packaging

By VERNON L. FLADAGER.

144 *pp.*, 5⅜ *x* 8 (1956).....$4.95*i*

A clear picture of the importance and dynamic character of packaging in its increasing role in shaping America's business future. What to look for in good package design; how consumer changes affect it; 20 key business problems packaging will help to solve; efficient integration with promotion, selling, advertising, and merchandising. Emphasis is given to such coming developments as the $100,000,000,000 self-service market; higher net profit packages; high-level packaging strategy in business; better organized packaging management; rise of the professional designer; pre-tested packages; $30,000,000,000 budgets for packaging and advertising. How a packaging decision can change the course of a business is discussed in a special "epilogue."

Marketing Management

BRITT AND BOYD—Marketing and Administrative Action

Edited by STEUART HENDERSON BRITT and HARPER W. BOYD, both of Northwestern Univ. *Series in Mktg. & Advtg.*

772 *pp.*, 6⅜ *x* 9¼, 61 *illus.* (1963)..$9.75*c*

A collection of 70 articles, selected from thousands of articles and books from diverse schools of thought, constituting a major con-

tribution to the concepts of marketing management and administrative action. The book deals with the vital areas of marketing management, placing each function into its proper perspective to show the totality of the marketing concept. The coordinating theme is that marketing is the unifying agent for all activities of the business firm's search for profits and survival. Contributors include: Peter F. Drucker, Melvin Anshen, Ferdinand F. Mauser, Thorstein Veblen, Alan A. Roberts, Pierre Martineau, Robert D. Buzzell, Charles C. Slater, Theodore Levitt, Melvin T. Copeland, Louis P. Bucklin, Hector Lazo, Arnold Corbin.
CONTENTS—The Scope of Marketing Management. Setting Marketing Objectives. Developing the Marketing Plan. Putting the Marketing Plan into Action. Organizing the Marketing Function. Controlling and Reappraising the Marketing Program. Index.

LAZO AND CORBIN—Management in Marketing
By HECTOR LAZO, New York University, and ARNOLD CORBIN, University of California, Berkeley. *Series in Mktg. & Advtg.*
657 *pp.*, 6 *x* 9, 33 *illus.* (1961).....$8.95*c*
Here's a text for the advanced student of marketing and the marketing executive who are seeking information on the meaning, scope and application of the new "marketing concept." It shows how today's complex and highly competitive businesses approach the new customer-oriented marketing from the point of view of the *manager*, who plans, organizes, supervises, and controls the operations, rather than from that of the assistants who perform them. This practical book stresses the managerial aspects, the reasons behind the management techniques of policy formulation and operational supervision. Here, management is encouraged to think of marketing as the core of all business operations, and to effectively apply basic managerial principles both within the marketing area and externally to its integration with other business functions.
CONTENTS—PRELIMINARY PHASES. Management of Marketing Function. Planning. Organizing. MANAGEMENT IN SPECIFIC MARKETING FUNCTIONS. Marketing Research. Product Planning. Sales. Advertising. Channels of Distribution. Transportation and Inventory Management. ELEMENTS OF MANAGERIAL ADMINISTRATION. Control. People. Integration. Implementation. Benefits of Effective Management in Marketing.

LEVITT—Innovation in Marketing
New Perspectives for Profit and Growth
By THEODORE LEVITT, Harvard University.
264 *pp.*, 5⅜ *x* 8 (1962).....$5.95*t*
This provocative book offers a new and penetrating look at how management can organize itself to plan ahead for effective growth and growing profits. It spells out the subtle, but real, difference between selling and marketing—the difference that determines whether your company merely survives from year to year or continually prospers and grows. It emphasizes the primacy of the marketing view of business—the idea that it is not the product, not the organization, or the fiscal know-how of the firm that decides its fate, but the customer. Considers marketing not as a business function but as a tightly integrated view of the entire business process. The fortune of the industries that have taken this view (and the misfortunes of those that haven't) are presented as valuable lessons to be learned.
CONTENTS—Customers and Businessmen. Change and Business Strategy. Management Myopia. Corporate Goals and Short-run Marketing Tactics. Needed: Marketing R & D. Blue-skies Planning for Business Survival. Planning and Preparing for Change. The Marketing Development Department. Commercial Research and Management Responsibilities. Communications Bottlenecks in Product Policy and Advertising. Centripetal Marketing.

MAUSER—Modern Marketing Management
An Integrated Approach
By FERDINAND F. MAUSER, Wayne State University. *Series in Mktg. & Advtg.*
502 *pp.*, 6 *x* 9. *illus.* (1961).....$8.50*c*
In this exceptional volume, the modern marketing concept approach is first related to over-all business objectives. This conceptual base is then used as a point of departure for considering the separate aspects of marketing. The wide spectrum of marketing activities which today's marketing manager must comprehend is treated in an integrating fashion. The emphasis is on relationships, analysis, strategy and tactics involved in building and executing the operational marketing program so the goal of profit maximization can be reached.
CONTENTS—The Concept of Marketing Management. Merchandising Strategy and Tactics—I The Consumer and the Product. Merchandising Strategy and Tactics—II Fundamentals of Merchandising Strategy. Merchandising Strategy and Tactics—III Exploiting the Merchandising Factors. Advertising. Packaging. The Buying Process. New-Product Planning. Marketing Research. Personnel—The Basic Marketing Resource. Organization Structure in Marketing—I Evolution of the Organizational Plan. Organization Structure in Marketing—II Specific Organizational Arrangements. Channels of Distribution. Location Selection and Development. Physical Distribution—I Transportation. Physical Distribution—II Warehousing and Merchandise Handling. Money Use and Marketing Management. Trends, the Future, the Marketing.

Marketing Research

CRISP—Marketing Research
By RICHARD D. CRISP, Carson/Roberts/Inc. *Series in Mktg. & Advtg.*
798 *pp.*, 6 *x* 9, 19 *illus.* (1957).....$8.50*c*
This book presents a practical, introductory coverage of the entire field of marketing research as it exists in professional practice. The author gives an orientation to the field, discusses the techniques of marketing research applications and the marketing research activities of non-manufacturers, and concludes with a treatment of the future of the field. The survey technique is thoroughly covered but is regarded as only one element in the market research picture. Extensive case material is included.
CONTENTS—Preface. PART I. INTRODUCTION TO THE MARKETING RESEARCH PROCESS. Nature and Scope of Marketing Research. The Organization of Marketing Research Activities. The Marketing-problem Base of Marketing Research. Introduction to the Problem-solving Process in Marketing. PART II. THE TECHNIQUE TOOLS OF MARKETING RESEARCH. Introduction to Sampling in Marketing Research. Analysis of Internal Data. Locating and Evaluating Available Data from External Sources. The Survey Technique. The Use of Panels in Marketing Research. Observation and Experiment in Marketing Research. Practical Aspects of Sampling in Marketing Research Practice. PART III. STEPS IN THE MARKETING RESEARCH PROCESS. Defining and Refining the Problem: Introduction. Defining and Refining the Problem (Continued): Informal Investigation. Developing the Research Plan. Executing the Research Plan. Analysis and Interpretation of Marketing Research Data: Introduction. Analysis and Interpretation of Marketing Research Data (Continued). Preparation of Research Reports. PART IV. MAJOR AREAS OF RESEARCH APPLICATION IN MARKETING. Sales Forecasting. Determining the Size and Characteristics of the Market for a Product. Estimating Territorial Sales Potentials and Measuring Territorial Variations in Sales Effectiveness. Product Research. New-product Development. Advertising Research. Test Marketing. Qualitative and "Motivational" Research. PART V. RESEARCH IN NON-MANUFACTURING ORGANIZATIONS. Marketing Research by Retailers, Wholesalers, and Other Service Organizations. Marketing Research by Trade Associations and

Other Mutual-interest Groups. Marketing Research by Advertising Agencies and Advertising Media. Consultants in Marketing Research Practice. Appendix. Index of Cases. Name Index. Subject Index.

LEWIS—Marketing Electrical Apparatus and Supplies

By EDWIN H. LEWIS, School of Business Administration, University of Minnesota.

306 *pp.*, 6 *x* 9, 47 *illus.* (1961).....$9.00*i*

Thoroughly treats methods of marketing electrical apparatus and supplies, covering such aspects as purchasing methods of users, and competitive factors in the trade. Provides practical information of special interest to manufacturers, manufacturing representatives, distributors, mill supply associations, electronic industries, and professional organizations.

CONTENTS—The Electrical Industry. Users of Electrical Apparatus and Supplies. Competitive Factors in the Industry. Channels of Distribution. The Manufacturers Representative. The Electrical Distributor. Auxiliary Service Organizations. Motors and Generators. Transformers. Electrical Distribution and Control Apparatus. Electrical Wire and Cable. Wiring Devices and Supplies. Lighting Fixtures.

LORIE AND ROBERTS—Basic Methods of Marketing Research

By J. H. LORIE and HARRY V. ROBERTS, University of Chicago.

437 *pp.*, 6 *x* 9, 4 *illus.* (1951).....$7.95*c*

The authors emphasize the underlying theory of marketing research rather than a description of current practice.

CONTENTS—PART I. INTRODUCTION. Introduction: Purpose and Method. A Brief Description of Marketing Research. PART II. SCIENTIFIC METHOD IN MARKETING RESEARCH. Scientific Method. Scientific Method in Marketing Research. The Use of Marketing Research for Marketing Problems. PART III. SAMPLING. An Introduction to Sampling. Some Fundamentals of Sampling Theory. Applications of Sampling Theory to the Sampling of Human Populations. Further Comments on Probability Sampling from Human Populations. Non-probability Sampling. Some Sampling Problems in Marketing Research. PART IV. COMMUNICATION AND OBSERVATION. Introduction to the Problem of Communication and Observation Securing Information on Behavior. Securing Information on Intentions. Securing Information on Attitudes. Securing Information on Knowledge and Habits of Thought. Securing Information on "Reasons Why." PART V. ADMINISTRATION. Some General Comments on the Administration of Marketing Research. Coordinating Research with the Needs of Management. Interviewing. Selecting, Training, and Supervising Interviewers. Processing Marketing Research Data. Some Suggestions for Further Reading. Index.

WOLFF—What Makes Women Buy

By JANET WOLFF, J. Walter Thompson Company. *Series in Mktg. & Advtg.*

320 *pp.*, 6 *x* 9, 12 *illus.* (1958).....$5.95*i*
*McG-H Paperbacks Ed.**

A practical, step-by-step guidebook for anyone who sells to women. Gathers together in one cover the available information on today's women and what will sell them, considering women from their physical, social, and psychological aspects. Interprets this information in terms of general selling principles, with practical examples showing their application and effectiveness. For easy reference, these principles are summed up in "feminine guideposts" at the end of each chapter. The book embraces all fields that sell to women—fashion, retailing, advertising, food manufacturing, appliance merchandising, designers, and so on.

* *Available only through your local bookstore.*

J. WALTER THOMPSON COMPANY—Population and Its Distribution

The United States Markets

Compiled by J. WALTER THOMPSON COMPANY. Eighth Edition.

400 *pp.*, 8½ *x* 11, *illus.* (1961).....$24.00*i*

Classifies and makes usable the results of the 1960 U.S. Census of Population and the 1958 Census of Retail Trade, selecting and simplifying the pertinent data into single-book form, for the aid of the business and marketing man responsible for accurate evaluation and correct decisions about markets. The book is divided into three sections: (1) 753 marketing areas listed in order of their size and showing sales data. (2) The population, number of families, and retail sales by kind of business for every county and every city in the U.S. with population over 2,500. (3) An alphabetical list of all incorporated and unincorporated places with over 1,000 population.

Advertising Principles

BREWSTER, PALMER, AND INGRAHAM—Introduction to Advertising

By ARTHUR J. BREWSTER, formerly Syracuse University, H. H. PALMER, formerly University of Rhode Island, and ROBERT G. INGRAHAM. Sixth Edition.

480 *pp.*, 6 *x* 9, *illus.* (1954).....$7.75*c*

Presents a short, comprehensive survey of the whole field of advertising, and shows the relationship of advertising to history and economics. The authors discuss research, marketing strategy, creative development of advertising, sales promotion, media selection, and mechanical and administrative operations.

CONTENTS—Preface. THE FIELD OF ADVERTISING. The Development of Advertising. The Economics and the Functions of Advertising. Truth in Advertising. Research of Product and Market. Channels of Trade. A Comparison of Advertising and Personal Selling. HOW TO WRITE ADVERTISING. Present-action Advertising. Future-action Advertising. The Appeal. Writing the Copy. Trade-marks and Slogans. HOW TO DISPLAY ADVERTISING. Types of Illustrations. Preparing to Print Illustrations. Typography and Printing. Color. Layout. WHERE TO PUBLISH ADVERTISING. Newspapers. General Magazines. Magazines for Special Fields. Direct Advertising. Radio and Television Advertising. Outdoor Advertising. Retail Store and Window Display. Miscellaneous Mediums. THE OPERATING SIDE OF ADVERTISING. Advertising Agencies. Selection of Mediums. Advertising Campaign. Testing the Advertising. Working with the Dealer. Advertising as a Vocation. Appendixes. Index.

BOYD, FRYBURGER, AND WESTFALL—Cases in Advertising Management

By HARPER W. BOYD, RALPH L. WESTFALL, and VERNON FRYBURGER, all of Northwestern Univ. *Series in Mktg. & Advtg.*

In Press

A casebook which covers in depth all major aspects of the advertising function.

CONTENTS—Determining Promotional Strategy: The Product and Its Image. Structuring the Market. Developing Promotional Strategy and Determining the Role of Advertising. Planning Creative Strategy. Planning Media Strategy. Evaluating Advertising Results. Organizing and Managing the Advertising Department. Organizing and Managing the Advertising Agency.

CRISP—How to Increase Advertising Effectiveness

By RICHARD D. CRISP, Marketing and Management Consultant.

*McG-H Paperbacks Ed. In Press**

A concise guide showing the *management* approach to advertising planning that has proved most helpful in achieving maximum advertising effectiveness. It guides management in solving the major problems of determining advertising appropriations and the objectives of an advertising program, evaluating an advertising and marketing plan, selecting an advertising agency

or evaluating the existing agency relationship, and using research to measure and increase the effectiveness of the advertising dollar. The whole study is a simple discussion of major problems, presented in specific detail, and which can be translated easily into any company's actual advertising situation.

CONTENTS—Introduction to Some of the Key Areas Requiring Management Decisions in Advertising Management Today. Why Advertising Volume is Expanding and What That Means to the Individual Advertiser's Expenditure Decisions. Basic Viewpoints toward Advertising, and Their Influence on Advertising Planning. The Importance of Determining Advertising Objectives. The Cost-results Relationship. Practical Guides in Determining the Objectives of Your Advertising. The Role of the Advertising Agency. How Much Should You Spend for Your Advertising? Introduction to Major Types of Advertising Agencies; Preliminary Guides to the Agency-selection Process. Practical Guides to Advertising Agency Selection and Evaluation. The Problem of Measuring Advertising Effectiveness. The Importance of an Advertising Plan. Test Marketing: Insurance Against Ineffective Advertising. Summary Observations. Appendixes.

* *Available only through your local bookstore.*

HEPNER—Modern Advertising

By HARRY W. HEPNER, Syracuse University. Third Edition.

746 *pp.*, 6 *x* 9, 138 *illus.* (1956).....$7.95*c*

Student Workbook.....$2.40*c*

Here is an unusually complete treatment of methods and techniques based on intensive consumer analysis, giving information needed to do the entire advertising job—from consumer research to copy writing, from readership surveys to product and market, showing with figures and findings how the advertiser can approach his problems most effectively. Much more than a revision of Hepner's widely praised and widely adopted *Effective Advertising*, this work has been completely reorganized to make it a companion volume for the author's well-known *Modern Marketing*. Thus, *Modern Advertising* is the only book on advertising that attempts to integrate advertising with marketing through such a textual relationship.

CONTENTS—INTRODUCTION. MARKETS AVAILABLE TO THE ADVERTISER. THE PRODUCT TO BE ADVERTISED. THE MEDIA. THE APPEAL. THE ADVERTISEMENT. ADVERTISING FOR SPECIAL MARKETS AND PURPOSES. BUDGETS AND EXPENDITURES. ADVERTISING AS A CAREER. Glossary. Name Index. Subject Index.

MESSNER—Industrial Advertising

By FREDERICK MESSNER, McCann-Erickson, Inc. *Series in Mktg. & Advtg.*

315 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$8.75*i*

Drawing on his diversified experience in the industrial advertising field, the author offers here a practical, well-rounded guide to the effective advertising of industrial products. Both the established practitioner and the new man in this field will benefit from the author's fresh treatment of the various phases of the subject—campaign planning, field research, copy techniques, format, use of illustrations, readership studies, media selection, direct mail, agency relations, and much more.

PRINTERS' INK—Advertising—Today/Yesterday/Tomorrow

Prepared by *Printers' Ink*, WOODROW WIRSIG, Editor.

472 *pp.*, 8¼ *x* 11¼, *illus.* (1963)...$12.95*t*

Written by outstanding leaders in the advertising business, this book—an omnibus of advertising issued by *Printers' Ink* on its 75th anniversary—provides a wealth of knowledge and inspiration in every area of advertising. Covers all phases of advertising, from product design to response-measuring services. Discusses the relationship of modern advertising and merchandising techniques to today's challenges . . . shows the interrelationships of specific advertising specialties with the whole marketing picture. Provides a graphic examination of the patterns of change and their impact on the marketing or advertising man's problems, his job, and his thinking.

WEIR—Truth in Advertising . . . and other heresies

By WALTER WEIR, Donahue & Coe, Inc. *Series in Mktg. & Advtg.*

245 *pp.*, 5⅜ *x* 8 (1963).....$5.95*t*

An incisive analysis of the responsibilities of advertising and advertising people, and of the attitudinal problems that confront the advertising practitioner today. The author starts with a controversial point of view: he admits the increasing criticism of advertising, attempts to prove it justified, and embraces that criticism as ultimately beneficial to advertising and to our society. On the question of truth in advertising, he proposes that, for purposes of argument, we throw moral and ethical considerations to the winds and consider only the view of the businessman that the purpose of advertising is to *sell*. Even if we do that, he maintains, we must conclude that it is simply not practical or economical to have advertising do other than represent the product as realistically and accurately as possible.

WEISS AND WEISS—1010 Tested Ideas That Move Merchandise

By E. B. WEISS, Doyle, Dane, Bernbach, Inc., and RICHARD E. WEISS, Publisher, *Tested Retail Selling*.

333 *pp.*, 5⅝ *x* 8⅜ (1962).....$6.95*t*

Covering the entire consumer field, from specialties to staples, this unique book presents the "cream of the crop" of merchandising ideas that have paid off over the years. Directly applicable at the retailing level, many of these ideas can be incorporated by manufacturers and distributors in their basic marketing strategy. Also contains a discussion of "infant trends"' that will play important roles in tomorrow's merchandising.

WRIGHT AND WARNER—Advertising

By JOHN S. WRIGHT, Montana State University; and DANIEL S. WARNER, University of Washington. *Series in Mktg. & Advtg.*

608 *pp.*, 6⅞ *x* 9¼, 239 *illus.* (1962)..$8.50*c*

This text, first of its kind to be written in collaboration by a professor of marketing and a professor of advertising, is intended for the first course in advertising fundamentals. The basic principles and viewpoints of advertising are approached with equal emphasis on marketing and communications because the book is written for students in any area and not just for those who intend to major in advertising or marketing. It introduces advertising against a background of international cultural conditions and human behavior, with the primary objective of presenting advertising as an important social and economic institution.

Advertising Research

LUCAS AND BRITT—Measuring Advertising Effectiveness

By DARRELL LUCAS, New York University, and Consultant to Batten, Barton, Durstine and Osborn, Inc. and the A. C. Nielsen Company; and STEUART HENDERSON BRITT, North-

western University, Editor, Journal of Marketing and Consultant to Leo Burnett Company, Inc. *Series in Mktg. & Advtg.*

416 *pp.*, 6 *x* 9, 17 *illus.* (1963).....$9.95*t*†

Drawing together the most current information on measurement of advertising messages and measurement of advertising media, this book discusses creative research as used today in the advertising industry. It provides practical details on all principal research methods. For students, this book will provide an objective evaluation of advertising research, and for businessmen, it will prove useful in trying to evaluate and improve methods of measuring advertising effectiveness. In preparing this book, the authors have drawn upon their psychological knowledge, their experience as teachers, and their work as consultants on problems of marketing and advertising.

CONTENTS—PART I: MEASUREMENT OF ADVERTISING MESSAGES. The Planning of Advertising Measurement. Techniques of Measurement. Recognition Tests. Recall and Association Tests. Opinion and Attitude Ratings. Projective Methods. Laboratory Testing and Analysis of Content. Inquiries and Sales Measures. PART II: MEASUREMENT OF ADVERTISING MEDIA. Basic Media Concepts. Printed Media Audiences. Television and Radio Audiences. Exposure of Advertisements. Audiences of Advertisements. Kinds of People in Media Audiences. Attitudes of Media Audiences. Audience Accumulation and Combinations. Lists of Figures. List of Tables. Index.

Advertising Copy and Production

BAKER—Visual Persuasion

The Effect of Pictures on the Subconscious

By STEPHEN BAKER, Baker & Byrne, New York. *Series in Mktg. & Advtg.*

251 *pp.*, 8½ *x* 11, *over* 350 *illus.* (1961) $13.50*t*

Introduces concept that persuasion can often be accomplished through pictures. Explains how ideas can be put across to others in an interesting and subtle manner. Discusses the pragmatic approach to evaluating art; the hunger of the average American for culture; the versatility of top photographic models; the effect of pictures on the subconscious; the latent meaning of shapes, textures, and symbols; and the importance of mood in an illustration. Treats such topics as sexual furtiveness; the power of sensual pictures in advertising; the sex appeal of fabrics; the charm of old-fashioned typefaces; how to get the reader emotionally involved with the illustration; typewriter advertising; how to make the beholder feel he owns the room he sees; hidden forces behind every food illustration; and the funny reasons people have for looking at the funnies. Considers examples of advertising that make women buy; the changing role of the American woman; and examples of outstanding image-building advertising campaigns.

CONTENTS—The Peculiar Taste of the American Public. Changing Face of Models. For the Subconscious Only. Sex in Advertising. The Charm of Being Old Fashioned. How to Make the Reader Feel a Part of the Picture. The Mysterious Minds of Women. The Art of Building a Corporate Image. APPENDIX.

BEDELL—How to Write Advertising That Sells

By CLYDE BEDELL, Advertising Educator and Consultant. Second Edition.

523 *pp.*, 6 *x* 9, 38 *illus.* (1952)....$10.00*i*

Provides a systematic and methodical approach to creative advertising which can save time and consistently increase effectiveness. As a how-to-do-it book, it makes clear the techniques of creating interest and desire on the part of the reader, how to make copy ring with conviction, and how to ask for action. The book discusses in detail the problems of the advertising copywriter, the tools with which he works, the elements of selling strategy, and the methods of applying them to produce effective ads. Not only does the book tell what copy *should* do, but also *how* it can be made to do it.

DUNN—Advertising Copy and Communication

By S. WATSON DUNN, University of Wisconsin. *Series in Mktg. & Advtg.*

545 *pp.*, 6 *x* 9, *illus.* (1956).....$7.95*c*

Provides complete coverage of both the *theory* and the *practice* of writing copy that communicates and sells. Provides a firm foundation for writing successful copy and deals with the elements of the ad-visualization, headlines, body text, some of the specialized types of copy, and two major means of controlling copy—copy testing and copy regulation.

CONTENTS—BACKGROUND FOR CREATING ADVERTISEMENTS. The Copywriter in Advertising. Advertising Copy and Communication. Planning the Advertising Copy. Sources of Copy Ideas. Copy Objectives. Consumer Motivation. ELEMENTS OF THE ADVERTISEMENT. Layout and Visualization. Headlines and Slogans. The Language of Body Copy. Types of Body Copy. Prechecking the Copy. SPECIAL PROBLEMS IN COMMUNICATING. The Retailer as a Communicator. Communicating through Direct Mail. Talking to the Businessman. Writing for Radio. Television Commercials. CONTROLS OVER ADVERTISING COPY. Testing the Effectiveness of Copy. The Regulation of Copy. Index.

HEROLD—Humor in Advertising

By DON HEROLD, Don Herold Company.

200 *pp.*, 8½ *x* 11, 196 *illus.* (1963).$9.95*t*

A perceptive, witty analysis of the use of humor in advertising media of all kinds—copiously illustrated with examples of both effective and ineffective humorous advertising, and replete with helpful insights and guidance. Among the contents: Cartoons in Advertising. Humor in Retail Advertising. Humor in Financial Advertising. Humor in Employee and Public Relations. Humor in Direct Mail. Yellevision. Humor Helps Posters. Humor in Advertising Can Save Millions.

STEBBINS—Copy Capsules

By HAL STEBBINS, Hal Stebbins, Inc. Contributing Editor, *Printers' Ink. Series in Mktg. & Advtg.*

223 *pp.*, 6⅝ *x* 7¼ (1957).....$5.95*i*

One of the great word masters of our times here gives you 1,059 forceful, thought-sparking nuggets of wisdom on *how to make words work for you* in any writing job. He dissects scores of modern ad campaigns to illustrate his points and to spark with fresh energy your own creative powers. He also offers shrewd "how-to" on outdoor advertising, client relations, art, and other advertising basics.

CONTENTS—Words about Words—A Copy Philosophy. On the Basics of Advertising. On the Subject of Ad-vice. On Putting Meat and Meaning into Copy. On Strategic Ways to Do It. On Making Words Move. On the Art of the Headline. On the Art of Sloganeering. On the Art of Advertising Outdoors. On the Art of Smart Campaigning. On When It's Positive to Be Negative. On Figures of Speech. On Reaching the Reader. On the Man Who Pays: the Client. On the Wit and Wisdom of Man.

BAKER—Advertising Layout and Art Direction

By STEPHEN BAKER, Baker & Byrne, New York. *Series in Mktg. & Advtg.*

342 *pp.*, 8½ *x* 11, *illus.* (1959)....$13.95*i*

† *Textbook edition available at educational list price.*

A thorough, practical, and profusely illustrated guide on how to prepare advertising art and make it do its job, and on the creative and management aspects of the art director's work. Shows how to prepare an advertisement, including making a layout, drawing and rendering techniques, composition, use of lettering and typography, production factors, etc. Discusses the art director's job of putting sell into layout and art, working with artists, writers, research men, executives, and clients, and organizing and managing an art department. Hundreds of illustrations make graphically clear the many ideas and techniques in this book.

DALGIN—Advertising Production

By BEN DALGIN, *The New York Times.*

243 *pp.*, 5½ *x* 8, 118 *illus.* (1946)...$7.50*t*

A practical guide explaining in clear detail the mechanics of advertising and printing production processes, providing the essential information which everyone in advertising, art, or production should know. Step by step and with many illustrations it traces the handling of a production job from start to finish, covering the mechanics of setting type, making engravings, rotogravure and colorgravure work, and duplicate platemaking. Emphasis is on newspaper production and on getting the most out of modern reproduction processes.

CONTENTS—The Principles of Photoengraving. Developments of Photoengraving. The Composition of Advertisements. The Making of Duplicate Plates. Newspaper Printing. Monotone Rotogravure. Color Rotogravure. Art for Reproduction. The Production Worker on the Job.

MELCHER AND LARRICK—Printing and Promotion Handbook

By DANIEL MELCHER, R. R. Bowker Company, and NANCY LARRICK, Random House. Second Edition.

438 *pp.*, 6 *x* 9, *illus.* (1956).....$10.75*hb*

A guide to more effective and economical use, preparation, and purchase of printed material used in promotion and advertising. All phases of the work—planning and complete campaigning, choosing the right printing process, handling cuts and plates, typesetting, art work, photography, editing and proofreading, paper, folding and binding, mailing and shipping, and others—are concisely and conveniently described in hundreds of definitions and descriptive articles, arranged alphabetically for quick reference.

WEIR—On the Writing of Advertising

By WALTER WEIR, Donahue & Coe, Inc. *Series in Mktg. & Advtg.*

206 *pp.*, 5⅜ *x* 8 (1960).....$6.75*t*

Discusses problems closely and intimately related to the creation and execution of advertising copy—the value, or lack of value, of research to the creative man—the relative importance of various advertising agency functions and services—physical conditions under which the writer of advertising has to labor—and others. An inspiration and help to those who are equipped with the basic skills of advertising writing, and the determination to move upward from the ranks of the competent and adequate to the small group of outstanding writers of advertising. Broad in scope, it will interest the experienced writer as well as the novice.

CONTENTS—1. The Importance of Questioning. 2. The Cult of Hard Sell. 3. Reconciling Points of View. 4. Aesthetics and Business. 5. A Possible Solution. 6. The Matter of Style. 7. A Lonely Business. 8. The Creative Urge. 9. The Written Word. 10. A Powerful Sorcery. 11. On Conveying Reality. 12. Horsepower—Pegasus-style. 13. A Kind of Nightmare. 14. A Suggested Discipline. 15. Two Heads. 16. There Were Giants. 17. On Problem Solving. 18. More on Problems. 19. Some Considerations. 20. Engaging the Reader. 21. Receiving the Message. 22. Trade Advertising. 23. The Role of Research. 24. Who Plays the Role? 25. Copy Testing. 26. Framing the Message. 27. Motivation Research. 28. The Hidden Persuaders. 29. Marketing as Communication. 30. Total Advertising. 31. "As If." 32. The Creative Process. 33. It's What You Are. 34. The Necessity of Belief. 35. A Personal Credo. Acknowledgments. Index.

Display Advertising

ASSOCIATION OF NATIONAL ADVERTISERS—Advertising at the Point of Purchase

Edited and compiled by THE ASSOCIATION OF NATIONAL ADVERTISERS, INC., with the cooperation of the POINT-OF-PURCHASE ADVERTISING INSTITUTE.

252 *pp.*, 6 *x* 9, *illus.* (1957).....$7.50*i*

A comprehensive treatment of a form of advertising which is growing rapidly as a result of new methods of mass merchandising, particularly the self-service system in food and other stores. Based on actual practices and experiences of more than 150 national and regional advertisers in 20 different product areas. Covers problems of budgeting, projecting, and evaluating point-of-purchase advertising as well as such areas as materials, creative ideas and sources, tie-ins, traveling displays, and packaging.

CONTENTS—Background. Functions of Point-of-purchase Advertising. Integration. Appropriations. Budget Control. Organization. Programming. The Time Schedule. Point-of-purchase Materials. Quantities. Creative Ideas and Sources. Field Research. Legal Considerations. Tie-ins. Self-liquidating Programs. Itinerant or Traveling Displays. Packaging and Point-of-purchase. Foreign-language and Export Point-of-purchase. Purchasing. Control. Distribution. Merchandising. Training. Materials and Processing.

Advertising Agency

BARTON—Advertising Agency Operations and Management

By ROGER BARTON, Editor, Media Scope. *Series in Mktg. & Advtg.*

384 *pp.*, 6 *x* 9, 50 *illus.* (1955).....$9.50*i*

An authoritative guide to effective methods of operating an advertising agency. Thoroughly describes how the functions of advertising agencies are organized and exercised in agencies of different types. Case material from both large and small agencies is used to illustrate methods, and the comprehensive treatment includes such collateral operations as new business development, personnel administration, and financial and accounting management. The case material shows such practical examples as how Ruthrauff and Ryan operates its copy function, how J. Walter Thompson operates its consumer panel, and how J. M. Mathes handles the Canada Dry account. Includes extensive material on agency-client agreements, planning, and agency traffic.

Direct Mail Advertising

GRAHAM—How to Sell through Mail Order

By IRVIN GRAHAM, Irvin Graham Agency and *Mail Order Business.*

433 *pp.*, 5½ *x* 8 (1949).....$7.95*t*

An everyday guide for anyone who wants to improve his mail order techniques or initiate and maintain a profitable mail order operation. Tells an unusually complete story—from

selecting a place for doing business to analyzing results derived from specific campaigns. The book ties in mail order advertising with business operation, showing how various business methods affect mail order advertising procedure.

CONTENTS—Product-selection for Mail Order Sale. Setting Up a Mail Order Business or Department. Keeping Records. Copy. Effective Sales Letters. The Coupon. Order Card and Order Form. The Proposition: What Offer to Make? Art. Layout. Production. An Introduction to Media. Newspapers. Magazines. Radio. Building Your Own Market. Supplementary Media. Testing. Scheduling. Analyzing Results. Sampling. Health Insurance for Business. Governmental Regulation of Advertising. How to Put an Advertising Agency to Work.

YECK AND MAGUIRE—Planning and Creating Better Direct Mail

By JOHN D. YECK, Yeck and Yeck; and JOHN T. MAGUIRE, Assistant Professor of Business English, University of Illinois. *Series in Mktg. & Advtg.*

400 *pp.*, 6 *x* 9, *illus.* (1961).....$7.95*t*

A practical, "how-to" reference to help students, businessmen, direct mail practitioners, and ad agency men develop effective techniques in the areas of communication, creativity, and persuasion in direct mail selling. Views direct mail as a business tool with many different uses. For example, it shows how mail can call on a carefully selected list of prospects for 1/100th of the cost of a salesman's call and tell each one the exact sales story the sales manager wants told. The book primarily helps businessmen using normal channels of distribution who want to use all methods of sales promotion and advertising, including mail, to do a better job. Covers such topics as increasing readership, creating copy, reproduction methods, envelopes, postage, "idea mailings," lists and how to keep them current, marketing research, and much more.

CONTENTS—Direct Mail Is Effective Advertising. Direct Mail's Kingsize Readership. How to Increase Direct Mail Readership. How to Handle Lists. How to Keep a List Up to Date. Direct Mail Costs: A Perspective. Pick a Winner. How to Write Copy That's Interesting to Read. How to Create Copy Attention. How to Create Copy Interest. How to Create Belief. How to Create Action. Marketing Research. Creative Materials: Introduction. Direct Mail's Copy Styles. How to Develop Them in Your Mailings. How to Select Direct Mail Formats. Methods of Reproducing Direct Mail. How to Think About Envelopes. How to Think About Postage and Postmarks. How to Develop "Idea Mailings." How to Buy Art and Layout. Jobs Letters Can Do for You. More Jobs Letters Can Do for You. Direct Mail as Response Advertising. How to Follow Up Responses. Direct Mail as an "Assistant Salesman." How to Solicit Funds. How to Sell by Mail.

Radio and Television Advertising

SEEHAFER AND LAEMMAR—Successful Television and Radio Advertising

By GENE F. SEEHAFER, CBS Radio Network, New York; and JACK W. LAEMMAR, J. Walter Thompson Company, Chicago. *Series in Mktg. & Advtg.*

672 *pp.*, 6 *x* 9 (1959).....$9.95*c*

Covering all aspects of broadcast advertising in a thorough and authoritative manner, this book is suitable for schools of advertising, business administration, marketing, journalism, and speech. The book is fully reorganized, each chapter has been entirely rewritten, and new chapters added to show new techniques and new concepts—it is an entirely new book. In developing the manuscript, the authors had the material reviewed and criticised by 196 specialists in all phases of the industry. The viewpoints of the advertiser, the station, the network, and the agency are all reflected.

CONTENTS—ELEMENTS OF THE AMERICAN COMMERCIAL BROADCASTING SYSTEM. The American System of Television and Radio. Television and Radio Stations. Television and Radio Audience. Color Television Advertising. CREATING TELEVISION AND RADIO PROGRAMS AND COMMERCIALS. Selecting and Sponsoring Programs. Live Programs and Talent. Programs on Tape, Film and Transcription. Writing Commercials for Television and Radio. Production and Direction. RESEARCH FOR TELEVISION AND RADIO ADVERTISING. Coverage and Circulation. Testing Programs and Testing Commercials. Program Ratings. Measuring Sales Effectiveness. TELEVISION AND RADIO ADVERTISING CAMPAIGNS. The Advertising Agency. Time Buying. Spot Television and Radio Advertising. Retail Television and Radio Advertisers. Retail Television and Radio Advertising Campaigns. National Television and Radio Advertisers. National Television and Radio Advertising Campaigns. TELEVISION AND RADIO STATION MANAGEMENT. Principles of Successful Station Management. Selling Television and Radio Time. Building the Audience. Merchandising Television and Radio Advertising. Regulation of Television and Radio Advertising. Glossary.

AGNEW AND O'BRIEN—Television Advertising

By CLARK M. AGNEW, Clark M. Agnew & Co. Inc., and NEIL O'BRIEN, J. Walter Thompson Co. *Series in TV.*

300 *pp.*, 6⅝ *x* 9¼, *illus.* (1958)....$11.00*i*

A comprehensive, nontechnical manual on the nature, fundamentals, and methods of television advertising. Methods of preparing advertising are covered in detail, with information on commercial writing, jingles, storyboards, and live and film production. Full background for practical understanding of the medium is given in sections on the growth of television advertising, comparison with other media, application of advertising appeals, role of the sponsor, advertising agency television practices, research, and the use of television advertising.

CONTENTS—Nature and Purpose. The Sponsor. The Advertising Agency. Television Advertising Research. Television Commercial Writing. Jingles. Storyboards. Production Basics. Production Particulars. Use. The Future. Television Advertising Dictionary.

Motivation Research

MARTINEAU—Motivation in Advertising

Motives That Make People Buy

By PIERRE MARTINEAU, *Chicago Tribune. Series in Mktg. & Advtg.*

210 *pp.*, 6 *x* 9, 12 *illus.* (1957)....$6.50*t*

Shows management new avenues to advertising effectiveness through a better understanding of the consumer as a human being, how he behaves, why he buys, and the factors in communication that actually influence him. Deals with feelings, emotions, and the satisfaction of psychological goals as greater consumer motivating forces than sales arguments, logic, and economics, and relates these ideas to motivation research, communication, and the creative elements in advertising.

Publicity and Public Relations

BEVERIDGE—Financial Public Relations

By OSCAR M. BEVERIDGE, Beveridge Organization, Inc.

378 *pp.*, 5⅝ *x* 8⅜, *illus.* (1964)....$9.50*i*

A comprehensive and non-technical guide to the who, what, where, and why of financial public relations. Drawing on the experience of hundreds of leading companies, the author sets forth successful and practical techniques in the fastest-growing area of the entire public relations field. Based on the contention that

a sound program wins and keeps the support of stockholders and the financial community, this book supplies the tested techniques for building such a program. It defines and documents the practices that publicly-held companies have found most effective in communicating with stockholders and prospective stockholders, the professional investment fraternity, the financial press, and other financial audiences.

CENTER—Public Relations Ideas in Action

Edited by ALLEN H. CENTER, Motorola, Inc.
336 *pp.*, 6 *x* 9 (1957).....$7.50*t*

A treasury of more than 500 practical, tested public relations ideas you can use to save time and trouble in carrying out various public relations objectives with various groups. Some 50 successful projects are described in detail by the men who originated and carried them out. In addition you get over 450 other projects, reported in concise form, from which to choose when you need an idea for a particular purpose quickly. Compiled from actual contemporary experiences and activities, material is divided according to prime motivations behind the various types of projects, presenting ideas suitable for industrial, commercial, professional, and non-profit purposes.

CONTENTS—PUBLIC RELATIONS AMONG EMPLOYEES. PUBLIC RELATIONS AMONG INVESTORS. PUBLIC RELATIONS IN THE COMMUNITY. PUBLIC RELATIONS AT THE MARKETPLACE. PUBLIC RELATIONS AT LARGE—FOR THE GREATER GOOD.

MARSTON—The Nature of Public Relations

By JOHN MARSTON, Michigan State Univ.
448 *pp.*, 6 *x* 9, *illus.* (1963).....$7.95*c*

This book on public relations is oriented around the RESEARCH-ACTION-COMMUNICATION-EVALUATION (RACE) formula. This formula provides both a definition of public relations and a working pattern of procedure. It is extensively illustrated by numerous actual cases in which particular elements of this formula are predominant. A comprehensive and realistic picture of the field is presented, based on the author's wide experience in public relations. Specific public relations problems discussed include: proxy fights, merger proposals, the economic problems of automation, and political campaigns.

CONTENTS—THE NATURE OF PUBLIC RELATIONS. What Is Public Relations? Why Public Relations? The Nature of Communication and Public Opinion. Reaching Special Publics. Some Special Users of Public Relations and Their Needs. More Special Users of Public Relations. Images—Corporate and Otherwise. The Tools of Public Relations. PUBLIC RELATIONS AT WORK. A Formula for Successful Public Relations Practice. Research and Research Cases. Action and Action Cases. Communication and Communication Cases. Evaluation and an Evaluation Case. THE WIDER DEVELOPMENT OF PUBLIC RELATIONS. World-wide Public Relations Developments. Positions. Preparation, and Professionalism. Right and Wrong in Public Relations. The Future of Public Relations. Appendices. Index.

STEPHENSON—Handbook of Public Relations

Edited by HOWARD STEPHENSON, President, Community Relations, Inc. Prepared by a Staff of Specialists.
855 *pp.*, 6 *x* 9, 38 *illus. and tables* (1960) $15.00*hb*

A master reference on the entire field of public relations that puts at your disposal virtually all information you need—from broad fundamentals and background, right down to exact, specialized techniques. Gives facts on planning and implementing programs and evaluating results . . . methods to reach and influence public opinion through newspapers, magazines, radio, television, and all other media . . . tested procedures for building prestige, boosting sales, promoting a cause, or any of hundreds of other goals. Gives actual and complete programs for such widely diverse fields as the small business, welfare agencies, school systems, the military, municipal government, and many more.

CONTENTS—SECTION ONE. PRINCIPLES OF PUBLIC RELATIONS. Introduction. Public Relations Practice. Public Relations Counseling. Public Relations and Marketing. Trade and Professional Associations. Applying Psychology. SECTION TWO. METHODS IN PUBLIC RELATIONS. Newspaper Publicity. Magazine as Media. Company Literature. Speaking Programs. Audio-Visual Techniques. Television and Radio. SECTION THREE. PUBLIC RELATIONS IN INDUSTRY. Corporate Citizenship. Major Industry. Reporting to Management. Employee Communications. Financial Public Relations. Customer Relations. Small Industry. SECTION FOUR. PUBLIC RELATIONS IN COMMERCE. Retailing. Life Insurance. Banking. Railroads. SECTION FIVE. PUBLIC RELATIONS IN PUBLIC ENTERPRISE. Philanthropy and Welfare. Municipal Governments. Public School Systems. Military. International.

Selling Principles

BENDER—How to Sell Well

The Art and Science of Professional Salesmanship

By JAMES F. BENDER, Adelphi College, Garden City, L.I., N.Y.
250 *pp.*, 5⅜ *x* 8 (1961).....$5.50*t*

Shows salesmen how to enhance their professional status, and successfully advance their career. From getting the right job, and practices for selling more, to programs for self-improvement, the book outlines principles and exercises for developing high-level salesmanship. How to find a marketing-minded company to work for, how to get the most out of the workday, how to sell more by less talking and more listening, and other subjects are covered. Included are fundamentals of developing and delivering a creative sales presentation, and hints for testing and developing empathy. In addition, the book shows how to improve note-taking, write better letters, reports, and memos, create ideas for sales promotions, apply the power of constructive thinking, profit from sales meetings, and other aspects that help the professional salesman improve his personal progress.

RUSSELL, BEACH, AND BUSKIRK—Textbook of Salesmanship, 7th Ed.

By FREDERIC A. RUSSELL, Univ. of Illinois, FRANK H. BEACH, Univ. of Illinois, RICHARD H. BUSKIRK, Univ. of Colorado.
573 *pp.*, 6 *x* 9, *illus.* (1963).....$7.95*c*
Correlated Textfilm Series—4 motion pictures (B&W).....$295.00

A revision of one of the most successful textbooks on salesmanship. It covers not only all the elements of the selling process, but important peripheral areas as well: sales management, ethics, working habits, and personal preparation for selling. The approach aims to instruct the would be salesman in how to become a success in his field. This approach is highly specific: it deals with the details of the selling process, the actual problems encountered by the salesman.

CONTENTS—Preface. Introduction. Preparation for Selling. The Selling Process. The Salesman as a Person. Name Index. Subject Index.

WEISS—The Vanishing Salesman
The Revolution in Personal Selling
By E. B. WEISS, Doyle, Dane, Bernbach, Inc.
288 *pp.*, 5⅜ *x* 8 (1962).....$6.95*t*
As a result of the growth of giant retailing and wholesaling, the increasing power of buying committees, electronic recording, etc., the selling function has changed dramatically—in consumer selling, in wholesaling, and in industrial marketing. The nature of these changes—their impact on the sales job—their implications not only for manufacturers and retailers, but for men in sales occupations—are spelled out in this book by the man who has called the shots on the major marketing changes of the past quarter-century.

CANFIELD—Salesmanship
Practices and Problems
By B. R. CANFIELD, Babson Institute of Business Administration. Third Edition.
573 *pp.*, 6 *x* 9, 66 *illus.* (1958).....$6.95*c*
This book should be of value to students of salesmanship, practicing salesmen, and others interested in better equipping themselves for the task of selling goods or services to consumers, industry, and merchants. A new arrangement of material in the second edition introduces the student immediately to the practical problems of locating and qualifying buyers, planning sales presentations, securing sales interviews, opening sales presentations, demonstrating, meeting objections and closing sales. A unique illustrative treatment has been employed to add interest and variety—candid photographs of salesmen representing well-known companies are shown engaged in the selling process.
CONTENTS—Preface. What Is Salesmanship? Who Is a Buyer? Why Customers Buy. Locating Buyers. Planning Sales Presentations. Securing Sales Interviews. Opening a Sales Interview. Communicating with Buyers. Conducting Sales Demonstrations. How to Overcome Objections. Closing the Sale Successfully. How to Serve and Keep Customers. Organizing Your Sales Work. Using Company and Product Facts in Sales Presentations. Handling Price and Credit. Handling Competition. Selling Merchants. Selling to Industry. Selling Ultimate Consumers. Selling Mechanical Service. Handling Claims and Adjustments. A Salesman's Public Relations. Bibliography. Index.

RADOS—How to Make More Money by Specialty Selling
Tested Sales Techniques from Top Producers Who Earn $25,000 and More a Year
By WILLIAM RADOS, Sales Training Consultant.
276 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960)....$6.50*t*
Explains a six-step program leading to bigger earnings for specialty salesmen. This practical, how-to book develops a definite technique for each step in the sale, based on case histories of specialty sellers in all phases of industry. Covers preparation, getting your interview, selecting prospects, telling your story, selling visually, answering questions and objections, handling different personality types, handling price and product competition, closing techniques, and more. Numerous examples of winning sales talks are included. The language is simple, practical, and direct, and the methods are easy to apply. At the end of each chapter there is a "Payoff Assignment" which guides you in putting these ideas to work.
CONTENTS—Why This Book Can Increase Your Income—*Substantially*. The Basic Step to Success in Specialty Selling. Whom Are You Going to Sell? What the Prospect Really Buys. Plan Your Sales Talk. Cash in by Realistic Rehearsal. Six Rules for Winning the Interview. Getting into the Home. Getting in to See the Businessman. Separate the Prospects from the Suspects. Put Sell in Your Tell by Making 'Em Drool for Benefits. Show as You Tell—Fourteen Simple Ways to Sell Visually. Design Your Presentation Album as a Closing Tool. There Is Always a Way. Beat Competition by Evidence of Superiority. How to Handle the Price Buyer. Selling Is Closing, or Twenty-three Ways to Close All Types of Prospects. Fourteen Ways to Control the Interview. How to Sell the Difficult Prospect. Two Formulas for Biggest Sales Volume. The Road Ahead, or Where Will You Be Five Years from Now?

HATTWICK—The New Psychology of Selling
By MELVIN S. HATTWICK, Director of Advertising, Continental Oil Co. *Series in Mktg. & Advgt.*
276 *pp.*, 6 *x* 9, 27 *illus.* (1960).....$6.50*t*
Gives 7 specific ways which help the salesman get started on the road to success. Explains in detail the changing methods of today's selling, how to analyze customers' needs, how to get "over on the customer's side quickly," how to "research" your customers and much more. In clear language, the book outlines the results of current psychological research applied to selling, and gives examples of how successful salesmen have used these methods profitably.
CONTENTS—What's Happening in Selling Today. How Successful Salesmen Do It. Why So Many Salesmen Fail. Practical Psychology You Can Use Right Now for Better Selling. Your Customer—Why He Buys. Your Customer—What He Wants. Step No. 1: Before You Call—Be Sure You Are Prepared. Step No. 2: When You Open the Door Do This; Get Over on the Customer's Side Right Away. Step No. 3: Compare . . . Comparison Pays Off. Step No. 4: Explain How and Why . . . the Customer Benefits from Your Proposition. Step No. 5: Give Proof, Confirmation. Step No. 6: Close with Which . . . "Which . . . . Do You Want?" Step No. 7: Holding Customers . . . and Winning Back Lost Customers. Successful Salesmen Reach Retail Customers These Proven Ways. How and Why Successful Salesmen Sell Dealers and Jobbers. Examples of Applying Psychology to Sell Intangibles.

HEGARTY—Get the Prospect to Help You Sell
By EDWARD J. HEGARTY, Business Consultant.
205 *pp.*, 6 *x* 9 (1959).....$6.50*t*
Describes a new, different way to boost sales, based on the tested idea that the more the prospect *does*, the more he wants to *buy*. Easy-to-use techniques that get the prospect to help you in telling the story, explaining the visuals, demonstrating the product, and closing the sale. Hundreds of specific suggestions on everything from the pre-approach to the follow-up. Special attention given to "visuals"—what they are, how to use them, how to make your own with a minimum of trouble or expense. Important points dramatized by real-life anecdotes.
CONTENTS—Get the Prospect to Sell Himself. YOU ASK HIM TO LISTEN. Using the Prospect in Your Approach. His Interest, Not Yours. Asking for Information. You Can Ask for Advice. There's a Way to Ask for Help. Of Course, You Offer to Help. Some Praise, But Make It Honest. Get Personal and Local. Let's Get Back on the Track. Do You Help Your Prospect Understand? Could Be You're Too Technical? You Can Repeat, of Course. Speak at His Rate, Not Yours. Is Your Speech as Good as It Might Be? How to Check on Understanding. Time for a Review. YOU ASK HIM TO LOOK. What He Sees Sells Him. Why Are You Showing This to Me? The Prospect Will Help You Show. How to Plan Your Yak-yak. The Plan for What You Do. How to Use a Prepared Visual. How to Build Your Own Visual Presentation. YOU ASK HIM TO TAKE PART. Anything You Can Do He Can Do Better. What You Can Ask the Prospect to Do. How to Invite the Prospect to Take Part. He Can Help You Close. There Are Patterns for Closing. Assuming He Has Bought. The Anecdote Can Help Him Decide. Can You Use the Fear of Loss? Inducements Help. Sum Up His Benefits. Try Any Time. Ask Why and Keep On Asking

Why. You Can Ask the Prospect to Buy. Use Visuals to Help the Prospect Decide. Some Don'ts in Closing. Remember, the Prospect Buys. The Prospect Helps in the Follow-up, Too. You Can Ask for Help. You Can Give Service. Certainly, Call Back. Make the Follow-up Profitable. How the Prospect Helps in the Preapproach. He Helps All the Way.

THAYER AND HARRIS—Sales and Engineering Representation

By LEE O. THAYER, The University of Oklahoma; Administrative Consultant. With the cooperation of GEORGE E. HARRIS, George E. Harris & Co., Inc.

210 *pp.*, 5⅜ *x* 8 (1958).....$6.50*i*

Provides a broad survey of sales-engineering, to help the representative improve his methods and increase his sales, and also to demonstrate to manufacturers the unique value of sales-engineering as a marketing factor. Covers many recent advances and describes solutions to a variety of persistent problems in this field. Makes available much basic material never before collected in one book, along with interesting and useful case material.

CONTENTS—What Sales and Engineering Representation Is. Getting Started as a Sales and Engineering Representative. Relations with Clients. What the Sales and Engineering Representative Does. How the Sales and Engineering Representative Fits In. Evaluating the Need for Sales and Engineering Representation. Industrial Salesmanship. The Technology and Economics of Sales and Engineering Representation. Successful Agency Management. Achieving Agency Policies and Goals. How Important Is Sales and Engineering Representation? Appendix. Index.

ERNEST AND DAVALL—Salesmanship Fundamentals

By JOHN W. ERNEST and GEORGE M. DAVALL, Los Angeles Public Schools. Second Edition.

414 *pp.*, 6 *x* 9, *illus.* (1959).....$4.84*b*
Workbook $1.84*b*

An extensive basic treatment of the principles of salesmanship, designed for the eleventh and twelfth grade high school level. A practical presentation developed from on-the-job experience in selling as well as from actual classroom teaching. Generously supported with cases, examples, and problems.

LOBERG—Machine Tool Selling

By HARRY J. LOBERG, Cornell University. Second Edition.

194 *pp.*, 6 *x* 9, *illus.* (1953).....$5.00*i*

A survey of the entire machine tool selling problem and the proved sales-building methods that help the machine tool salesman check his techniques and improve his sales. It summarizes a sales refresher course sponsored by the National Machine Tool Builders' Association and the American Machine Tool Distributors' Association.

ROTH—How to Sell Your Way to Success

By CHARLES B. ROTH.

222 *pp.*, 5½ *x* 8 (1953).....$4.95*t*

The down-to-earth, practical fundamentals of selling in a book that goes straight to the point in providing the reader with all the tools and techniques he needs to achieve selling success. Covers the development of a confident, sales-minded personality, describes the steps vital to closing a sale, and discusses many other important aspects of the selling process. The author sparks his text with human interest stories and case histories.

WHITING—The Five Great Rules of Selling

By PERCY H. WHITING, Managing Director of the Dale Carnegie Sales Courses. Revised Edition.

336 *pp.*, 5⅜ *x* 8⅜ (1957).....$4.95*t*†

A salesman's guide to more sales, better commissions. Out of the hundreds upon hundreds of selling ideas tested by Percy H. Whiting in his thirty-five years of moving thousands of men to top selling positions, he has condensed the most effective into FIVE simple, proven rules. Mr. Whiting promises that any salesman, good or bad, who learns these rules and applies them will increase his sales volume. The book not only tells what to do to make a sale—it shows also how to do it. The author gives detailed methods for planning sales talks and testing them. He shows how to get in to see a prospect, how to get his attention and hold his interest, how to make him want the product, how to convince him of its value, and how to close the deal.

WILSON—Open the Mind and Close the Sale
The Key to Success in Selling

By JOHN M. WILSON, the National Cash Register Co.

256 *pp.*, 5½ *x* 8, 34 *illus.* (1953)....$4.95*t*

The leader of one of the country's foremost sales organizations presents basic principles and techniques in a logical, simple sequence that will guarantee a creative selling job, for products, services, or ideas. Takes the new approach that the salesman is a *manager*, and on this basis guides his thinking in self-training, self-motivation, creative selling techniques, and the responsibilities of his personal efforts. A free premium intitled *Salesmaker's Stimulator* will be included with the book in the form of an insert. This is not available separately.

Sales Promotion

MEREDITH—Effective Merchandising with Premiums

By GEORGE MEREDITH, Meredith Associates.

348 *pp.*, 5⅜ *x* 8, *illus.* (1962).....$7.95*i*

This practical book puts the many types of premiums into proper perspective with today's marketing needs—shows how each has been applied to solve specific sales problems—offers guideposts to the most effective application of each. Includes practical discussions of such related areas as consumer contests, advertising specialties, and business gifts. Also features a chapter on selling merchandise to the growing premium market.

TURNER—Sales Promotion That Gets Results
A Key to More Effective Advertising

By HOWARD M. TURNER JR., D'Arcy Advertising Company. *Series in Mktg. & Advtg.*

272 *pp.*, 6 *x* 9, 40 *illus.* (1959).....$6.95*i*

Shows how sales promotion is used as an activity of marketing, with emphasis on how it can achieve sales and marketing objectives. Covers all major phases of sales promotion as it is used to stimulate salesmen, distributors, and retailers; promote products aggressively; make advertising more effective; and reach selected prospects. Discusses pre-testing, evaluation, planning and budgeting of sales promotion; treats its relationship to advertising, personal selling, and public relations; and gives case histories illustrating important points.

CONTENTS—Sales Promotion: A Key to More Effective Marketing. Helping Salesmen Do a Better Selling Job. Developing Retail Promotion Strategy. Stimulat-

† *Textbook edition available at educational list price.*

ing Retail Advertising. Obtaining Point of Purchase Display. Planning the Complete Retail Promotion. Planning Effective Product Promotion. Using Samples, Coupons, Premiums, and Contests. Making Advertising More Effective through Sales Promotion. Reach Selected Prospects through Sales Promotion. Evaluating and Pre-Testing Sales Promotion. Planning and Budgeting for Sales Promotion.

MERCHANDISING AND PROMOTION IDEAS LIBRARY $19.95*r*

Association of National Advertisers—Advertising at the Point of Purchase
Fladaser—The Selling Power of Packaging
Turner—Sales Promotion That Gets Results
Weiss—Merchandising for Tomorrow

Sales Management

CRISP—Sales Planning and Control

By RICHARD D. CRISP, Carson/Roberts/Inc. *Series in Mktg. & Advtg.*
414 *pp.*, 6 *x* 9, 18 *illus.* (1961).....$8.95*t*

Offers a planned program for increasing selling effectiveness and reducing marketing costs. Demonstrates how organized marketing research can increase selling efficiency, and how a practical, scientific approach to marketing can reduce distribution costs. Gives a clear picture of the control approaches and techniques that are widely used by top companies.

TOSDAL—Introduction to Sales Management

By HARRY R. TOSDAL, Graduate School of Business Administration, Harvard University. *Harvard Business School Case Books.* Fourth Edition.
866 *pp.*, 6 *x* 9, *illus.* (1957).....$8.95*c*

Presents brief textual statements of general principles, followed by groups of carefully selected problems taken from active business enterprises. Supplementing these is a series of brief cases intended to bring up problems in the same general field but presenting the cases under varying conditions and different industries.

CONTENTS—Problems of Sales Management. Product Planning. Product Policy. Product Research. Distribution Policies. Pricing and Terms of Sale. Market and Sales Planning. Sales Programs and Sales Promotion. Sales Organization. Management of Sales Force. Filling and Delivery of Orders. Control of Sales Operations. Index.

HEGARTY—Making Your Sales Presentation Sell More

By EDWARD J. HEGARTY, Sales Consultant.
307 *pp.*, 6 *x* 9 (1957).....$6.50*t*

Shows how to analyze and improve the sales presentation, providing a pattern which the author has used successfully himself, and taught to thousands of salesmen. The pattern includes the three elements important when the salesman is in the presence of the customer: what to say, what to do, and what to ask the prospect to do. With a wealth of examples, the book emphasizes such points as 1) how to speak simply; 2) how to tell the sales story in the quickest, most effective way; 3) the importance of visual aids in selling and how to use them effectively; and 4) how to get the prospect to help make the sale.

CONTENTS—What Is a Sales Presentation? WHAT YOU SAY. Not Too Much. I Hope. As Simple as Possible. You're Speaking: Why Not Use Spoken Language? Make It Clear, Please. Big Words and Bigger Claims. It Pays to Be Specific. Who Talks Too Much, Me? The Bad Speech Habits and What You Can Do about Them. Say It with Sell. The Most Important Speaking You Do—The Question. WHAT YOU DO. The Great Art of Listening. The Science of Showing. Demonstrate to Sell. WHAT YOU ASK THE PROSPECT TO DO. What, How, and Why. HOW TO ORGANIZE. Why Organize? A Plan Will Help. How to Build Your Own Sales Presentation. Building Your Own Visual. Test and Practice and Rehearsal. The Twelve Top Ideas.

HAAS—How to Develop Successful Salesmen

By KENNETH B. HAAS, Hofstra College, Hempstead, New York. *Series in Mktg. & Advtg.*
289 *pp.*, 6 *x* 9, 59 *illus.* (1957).....$6.95*i*
*McG-H Paperbacks Ed.**

Simple, authoritative guide for sales supervisors of small and medium size organizations, showing how they can develop their people into top-drawer, profitable representatives of the company. Deals with the whole range of problems from picking, starting, and coaching salespeople, through such things as holding effective meetings and conferences, appraising effort, building morale, and correcting and disciplining.

** Available only through your local bookstore.*

HEGARTY—Making Your Sales Meeting Sell

By EDWARD J. HEGARTY, Sales Consultant.
303 *pp.*, 5½ *x* 8, *illus.* (1955).....$6.50*t*

A manual of immense practical value in planning and running sales meetings. Covers the subject right from the beginning of deciding what you want your meeting to accomplish, through every element of planning, getting ideas, writing speech material, putting it on, using visual and demonstration material, getting audience participation, and so on down to the fine points of sending your audience away with clear, firm impressions. Lays special stress on the importance of ideas for enlivening meetings and shows where to get and how to use ideas that will both keep the audience interested and dramatize your key points.

Retailing Principles

BARKER, ANDERSON, AND BUTTERWORTH—Principles of Retailing

By CLARE WRIGHT BARKER, deceased, IRA DENNIS ANDERSON, Northwestern University, and J. DONALD BUTTERWORTH, University of Florida. Third Edition.
633 *pp.*, 6 *x* 9, 150 *illus.* (1956).....$7.95*c*

Here is an analysis of the important principles underlying successful retail store operation for the student who may someday want to own his own store or for the reader who is interested in "how" and "why" retailing is carried on as it is. This book gives a brief but inclusive picture of the place of retailing in the economic structure and develops what the authors consider the most important aspects of successful store management.

CONTENTS—An Introduction to Retailing. Customer Demand. Modern Types of Retail Institutions. Store Location. Store Layout, Fixtures, and Equipment. Store Organization. Buying—Preparing to Place the Order. Buying Mechanics—Placing the Order. Receiving, Checking, and Marking Merchandise. Pricing the Merchandise. The Retail Operating Statement. Dollar Stock Control. Unit Stock Control. Stock Turnover. Sales Promotion. Retail Advertising. Retail Salesmanship. Customer Services. Credit Management. Personnel Management. Expense Control. Index.

McNAIR, BURNHAM, AND HERSUM—Cases in Retail Management

By MALCOLM P. MCNAIR, ELIZABETH A. BURNHAM, and ANITA C. HERSUM, Graduate School of Business Administration, Harvard University.
806 *pp.*, 6 *x* 9, *illus.* (1957).....$10.50*c*

In this, the first Harvard case book to be printed in retailing since 1937, only four of the 68 cases have previously been printed. Some are from small business, but most from large-scale

institutions: department stores, chains, supermarkets, etc., since it is in such institutions that the problems at issue can be examined in greatest detail. For the most part, the cases are sufficiently comprehensive to be used without an accompanying text. An introduction indicates the position which retailing occupies in the economy of the nation, gives pertinent statistics, and suggests some of the long-range problems which retailing must face in the future.

CONTENTS—GENERAL INTRODUCTION. ELEMENTS OF RETAIL PROFIT AND LOSS. Retail Merchandising Arithmetic Manual. Exercises. Use of Figures. GENERAL MERCHANDISE POLICIES IN RELATION TO CONSUMERS. New Retail Enterprises. Level of Trade. Merchandise Mix and Character of Service. Store Location. PRICING. Pricing Policies. Markdowns. MERCHANDISE SELECTION AND BUYING. Fashion. Merchandise Selection, Assortments, and Relations with Resources. GENERAL MERCHANDISE MANAGEMENT. Departmental Management. Organization of Buying and Merchandising. SALES PROMOTION. Advertising. Layout, Presentation, and Fixturing. Special Promotional Methods and Services. SELLING. Retail Selling and Incidents. PERSONNEL. Selection and Placement. Training. Store Hours. Personnel Budgeting. Compensation. Union Relations. Organization. PLANT OPERATION AND STORE SYSTEM. Receiving and Marking. Handling Cash and Credit Transactions. Accounts Receivable. Delivery. CONTROL. Merchandise Accounting. Merchandise Control. Expense Accounting and Control. Financial Management. APPENDIX.

NELSON—The Selection of Retail Locations

By RICHARD L. NELSON, President, Real Estate Research Corporation.

422 *pp.*, 6 *x* 9, *illus.* (1958).....$10.75*t*

Presents a complete study of the factors involved in selecting locations for establishments selling consumer goods or services. Making heavy use of market research and statistical techniques, the author places the selection of sites on a rational, reliable basis. He develops principles of site selection, analyzes in detail the methods of estimating sales or bank deposits, sets up selection procedures, and discusses and evaluates current and future trends in the retail marketing of goods and services. Contains numerous charts, tables, plans and drawings. The book will be equally valuable to the person who must do his own research and make his own decision, or to the person who has the assistance of a professional analyst.

CONTENTS—PART I—THE INFLUENCE OF LOCATION ON RETAILING. 1. Retailing and the Growth of Cities. 2. The Influence of Decentralization. 3. Current Factors Affecting Location. 4. Merchandising Changes Affecting Location. PART II—THE SELECTION OF A LOCATION. 5. The Importance of Location Today. 6. The Principles of Retail Location. 7. The Theory of Cumulative Attraction. 8. The Law of Compatibility. 9. Selecting a Downtown Location. 10. Selecting Outlying Locations. 11. Locating Banks and Savings and Loan Associations. PART III—THE TECHNIQUE OF ESTIMATING BUSINESS VOLUME. 12. The Purpose of Volume Estimates. 13. Various Estimating Techniques. 14. Volume Estimates for "On-your-own" Locations. 15. The Role of the Consultant. PART IV—WHAT ABOUT SHOPPING CENTERS? 16. Shopping Center Types. 17. Economic Analysis of a Shopping Center: Delineating the Trade Area. 18. Economic Analysis of a Shopping Center: The Field Work. 19. Economic Analysis of a Shopping Center: Data Evaluation and Conclusions. 20. The Effect of Design in Shopping Centers. 21. Parking Requirements for Retail Stores. 22. Leasing, Financing, Management, and Promotion of Centers. PART V—NEW TRENDS IN THE ECONOMICS OF LOCATION. 23. Trends in Financing and Leasing for Individual Stores. 24. New Solutions for Older Shopping Districts. 25. City Planning and Retail Locations. 26. Developing Patterns of the Future. INDEX.

RICHERT, MEYER, AND HAINES—Retailing Principles and Practices

By G. HENRY RICHERT, G. WARREN MEYER, University of Minnesota, and PETER HAINES, Michigan State University. Fourth Edition.

512 *pp.*, 6½ *x* 9¼, *illus.* (1962)....$5.76*b*
Tests .....$.84*b*

New, introductory textbook in the field of retailing covering all the basic store operations and management situations that are common to the beginning worker. Provides an abundance of student activities for each part. Starts the student where he begins in retailing and advances him upwards to the more important duties and concepts. Throughout the text, stress is on the need for creativity in retail personnel and new merchandising trends.

CONTENTS—RETAILING—A WIDE WORLD OF OPPORTUNITY. Retailing Is Dynamic. Retailing: Opportunity Unlimited. Qualities of the Successful Retailer. GETTING STARTED IN RETAILING. Retailing Is People. Learning Store Policies and Store Systems. Readying Merchandise for Sale. Knowing Your Merchandise. Basic Requirements for Successful Selling. RETAILING JOB SKILLS. Moving Up the Sales Ladder. Becoming a Consumer Consultant. Visual Merchandising. Sales Promotion. Customer Services. Fashion Merchandising. MERCHANDISING MANAGEMENT. The Changing American Market. Store Location, Layout, and Organization. Buying to Meet Customer Demand. Pricing for Profit. Accounting and Control. Personnel Management. Index.

WINGATE, GILLESPIE, AND ADDISON—Know Your Merchandise

By ISABEL B. WINGATE, KAREN R. GILLESPIE, New York University, and BETTY G. ADDISON. Third Edition.

In Press

A complete and up-to-date revision of this leading merchandise-information textbook. Includes latest information on new synthetic fabrics, plastics, and other products. The book consists of 30 chapters, which are now broken down into approximately 99 teaching units—each accompanied by its own student activity material. Designed for classes in both retailing and consumer buying.

BURLEY, FISHER, AND COX—Drug Store Operating Costs and Profits

By ORIN E. BURLEY, Wharton School of Finance and Commerce, University of Pennsylvania, ALBERT B. FISHER, JR., National Wholesale Druggists' Association, and ROBERT G. COX, Wharton School of Finance and Commerce, University of Pennsylvania.

442 *pp.*, 6 *x* 9, 10 *illus.* (1956).....$8.50*i*

A guide to more profitable drug store operation through better understanding and analysis of costs. Both methods and data are given to help the store operator analyze margins, costs, departments, and commodities, in order to determine the possibilities and approaches for more profits. The book provides measures of major sources (departmental and commodity) of profit, and helps the operator control hidden losses such as shrinkage, idle time, and improper use of space. Includes data on actual store operations.

CONTENTS—Objectives and Highlights of Study. A Resume of Study Methods. Operating-expense Classification and Assignment. Operations of Stores 1 through 12. Prescription Department. Proprietaries Department. Toiletries Department. Sundries Department. Tobacco Department. Confections Department. The Magazine Department. The Fountain Department. Instructions and Methodology.

Office Management

BIRN, CROSSAN, AND EASTWOOD—Measurement and Control of Office Costs
Master Clerical Data
By SERGE A. BIRN and R. M. CROSSAN, Serge A. Birn Company, Inc., and RALPH W. EASTWOOD, Dawbarn Brothers, Inc.
318 *pp.*, 5⅝ *x* 8⅜, 99 *illus.* (1961)..$8.50*i*
Describes and explains a modern scientific technique that has been developed to measure and control office costs. Based on predetermined motion times, this technique called Master Clerical Data, or simply MCD, is discussed in terms of both the routine and highly diversified type of office job that it can be used to measure. Typical problems involved in job analysis are discussed, and necessary procedures to follow for gathering data are outlined. To supplement material in the book, a complete catalogue of elemental times for the performance of all manual office activities, plus machine operating times for the more basic office equipment is included.
CONTENTS—Fundamentals of Cost Control. How We Produce. A Fair Day's Work. Planning for Office Cost Control. "What You Say May Be True, But . . . " A Beginner's Guide to Work Measurement. Standard Data in One Easy Lesson. Introduction to MCD: Body Motions. Mental Activities. Get and Aside. Supplementary Handling Elements. Machine-operating Elements. Making the MCD Study: The Interview. Making the MCD Study: The Forms and How They Are Used. Typical MCD Analysis: Order Indexing. Typical MCD Analysis: IBM Auto Key Punch. How Information Flows. Allowances: Plain or Fancy. Supporting Techniques. Simplified MCD Application: The Time Formula. Using MCD to Control Costs. Using MCD to Improve Methods. Using MCD to Improve Methods: What Not to Do. A Look Ahead.

GRILLO AND BERG—Work Measurement in the Office
A Guide to Office Cost Control
By ELMER V. GRILLO, New York University, and C. J. BERG, JR., Frank M. Knox Co., Inc.
200 *pp.*, 6 *x* 9, 45 *illus.* (1959).....$7.50*i*
Shows how to set up and carry out an office work measurement program as a guide to improvement of methods and better control of costs. Step-by-step approach tells how to organize the program, what problems to anticipate, how to gain cooperation of employees, and how to study an office organization. Shows measurement techniques, plus a variety of control reports for communicating results.
CONTENTS—Part One. ORGANIZING FOR WORK MEASUREMENT. The Need for Work Measurement in the Office. What Is Work Measurement? How to Organize a Program. Studying the Office Organization and Approaching the Employees. Beginning the Study. Part Two. TECHNIQUES OF WORK MEASUREMENT. Standards Based on Estimates. Time Records. Stopwatch and Wrist-watch Studies. The Work Sampling Method of Establishing Standards. Micromotion in Establishing Clerical Standards. Predetermined Time Standards. A Comparison and Evaluation of Work Measurement Techniques. Part Three. THE USES OF OFFICE WORK STANDARDS. Adjusting Work Standards for Allowances. Use of Work Standards for Measuring Performance. Work Measurement and Office Incentives. Selected References. Index.

GRILLO—Control Techniques for Office Efficiency
By ELMER V. GRILLO, New York University.
284 *pp.*, 6 *x* 9, 88 *illus.* (1963).....$9.50*i*
A how-to-do-it manual designed, by the use of specific techniques, to help the office executive to discover where the real waste lies in administrative operations and to improve their effectiveness. The author, who feels that many firms err in attempting to control paperwork without examining the entire problem, explains the various techniques by which an office executive can set up his own program for improving the effectiveness of his operations. Each chapter is devoted to one or more techniques, with a step-by-step description of how to use them. Illustrations show actual forms and reports; the text gives examples of their application to typical problems.

LEFFINGWELL AND ROBINSON—Textbook of Office Management
By WILLIAM HENRY LEFFINGWELL and EDWIN M. ROBINSON, Boston University. Third Edition.
649 *pp.*, 6 *x* 9, 98 *illus.* (1950).....$7.95*c*
Presents the principles of management in easily understandable and teachable form, with emphasis on modern techniques. The concept of scientific method is soundly treated, with fundamentals and procedures that enable the student to approach with confidence any office organization or management problem, to analyze and synthesize the answer.
CONTENTS—The Relation of the Office to General Business. The Modern Conception of Office Management. Organization, Administration, and Management. The Control of Office Work. Office Routines and Their Construction. Flow of Work. Facilitating the Performance of Work—Office Service—Mail and Messenger. Correspondence and Transcribing. Office Records and Filing. The Design and Control of Office Forms. Stationery and Office Supplies. Office Desks and Desk Systems. Office Machines. Providing Office Space. Working Conditions. Office Arrangement. The Office Worker and His Job. The Employment of Clerical Workers. Employee Testing. The Training of Clerical Employees. The Office Manual. Compensation of Office Employees. Scientific Analysis. The Measurement of Office Work. The Setting of Standards. Planning and Scheduling Office Work. Keeping Office Expense Down. Check Lists for Office Managers.

KNOX—Integrated Cost Control in the Office
By FRANK M. KNOX, Frank M. Knox Company, Inc.
293 *pp.*, 6 *x* 9, 28 *illus.* (1958).....$8.50*i*
A clear, practical guide to the reduction and control of office costs through an organized management plan. It shows how to streamline paper work, eliminate unnecessary clerical operations, and use advanced automation wherever possible. Developed specifically for the office situation, these methods demonstrate how to plan and operate office cost control, and how to increase supervisory efficiency through work simplification and a better sense of management responsibility.
CONTENTS—The Office Cost Problem. Responsibility for Office Cost Control. Approaches to the Office Cost Problem. Preliminary Requirements for Integrated Cost Control. Factors of the Office Cost Control Program. Control over Forms. Control over Methods and Procedures. Clerical Work Measurement in the Office. Work Simplification in the Office. Records Control.

McGILL—Punched Cards
Data Processing for Profit Improvement
By DONALD A. C. MCGILL, American Metal Markets Company.
232 *pp.*, 6 *x* 9, 154 *illus.* (1962).....$7.50*i*
Provides an introduction to punched card data processing for management of the small and medium-sized firm which has not yet converted to mechanized clerical methods. Thoroughly covers descriptions of punched card equipment and the principles underlying the use of such equipment. The book explains how automatic or punched card methods enable a company to augment profits, and it explains the choice of "profit objectives" to govern the firm's

control, planning, and application of punched card methods. Also discussed are the ways management should go about planning the conversion to punched cards. Future developments which can be expected in data processing are also analyzed.
CONTENTS—Punched Cards and Profits. What Is Data Processing? The Punched Card. Punched Card Equipment. How a Punched Card System Works. Punched Cards' Advantage: Analysis. When Is a Punched Card System Feasible? Planning the Change to Punched Cards—I. Planning the Change to Punched Cards—II. Punched Cards and People. The Seven Imperatives of Punched Cards. Punched Cards and the Future. Case Book—Parts I and II.

NATIONAL OFFICE MANAGEMENT ASSOCIATION—Manual of Practical Office Short Cuts

Compiled from ideas submitted by members of the NATIONAL OFFICE MANAGEMENT ASSOCIATION. Volume I.
272 *pp.*, 6 *x* 9, 102 *illus.* (1947)....$7.95*i*
Brought together in convenient form are 625 ideas of many types, each contributed by office personnel who found it a practical device for saving time, money, or labor in his own office. The ideas cover everything from hints on filing and typing to improved practices of inventory control and scientific tests for the selection of personnel.

NATIONAL OFFICE MANAGEMENT ASSOCIATION—Practical Office Time Savers

Compiled from ideas submitted by members of the NATIONAL OFFICE MANAGEMENT ASSOCIATION. Volume II.
305 *pp.*, 6 *x* 9, 96 *illus.* (1957).....$7.75*i*
A compilation of hundreds of ideas for short cuts in office operations that make them simpler, less time consuming, and less expensive. Ideas are presented on the special and routine operations that go on in every office—in billing, typing, filing, etc. For each idea, the book tells concisely how the operation was performed previously and how it was improved. In many cases, the book shows what the results were in time or money saved.
CONTENTS—Accounting—General. Accounts Payable. Accounts Receivable. Billing. Cash. Communications. Credit. Environment. Filing. Forms. Gadgets. Inventories. Mail. Methods. Orders. Paying. Payroll. Personnel. Purchasing. Reports. Reproduction. Sorting. Supplies. Tabulating. Telephone and Telegraph. Tricks. Typing.

NEWMAN AND NEWMAN—Canadian Business Handbook

By DOROTHY NEWMAN, University of Manitoba; and JEAN NEWMAN, Lever Brothers Canada Ltd., Toronto.
500 *pp.*, 6 *x* 9.....$9.75
A handbook intended for both executives and their office staffs. Contents include all the information usually found in a secretary's handbook on office practice, communications, English, forms of address, plus basic information about corporation structure, stocks and bonds, business taxation (both federal and provincial), business law, banking, insurance, and government departments. The arrangement of the book is a logical one, to facilitate straightforward reading within a subject area.
CONTENTS—Business Terms and Practice. Office Practice. English.

ODELL AND STRONG—Records Management and Filing Operations

By MARGARET K. ODELL and EARL P. STRONG, Pennsylvania State University.
342 *pp.*, 6 *x* 9, 142 *illus.* (1947).....$7.50*i*
Emphasis is on management and the importance of proper administration and control of all paper and card records for an organization. The book shows how to plan and manage files for quick service to users, how to index records, how to control incoming correspondence, how to prepare operating manual, how to index foreign names, and how to maintain centralized control of all types of filing records.
CONTENTS—Records and Their Administration. Control of Records. Organization for Control of Records. Location and Layout of Records Department. Equipment and Supplies. Receiving and Handling Records. Preparing Records for Filing. Preparing Records for Filing (Continued). Filing Records. Finding Records. Issuing and Controlling the Records. Transfer, Retention, and Disposal of Records. Reports, Statistics, and Standards. Manual of Filing Operations. Personnel and Training.

STRONG—Increasing Office Productivity

A Seven Step Program
By EARL P. STRONG, The Pennsylvania State University.
287 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962)....$7.50*i*
Gives a seven-step program for increasing the efficiency and productivity of any office. In clear, concise, and nontechnical language it analyzes all of the factors involved in the functioning of a modern office—from equipment, to work methods, to personnel—and shows how office functions can be reduced in cost, speeded up, made more productive, and performed more skillfully. The book shows how to make a position analysis . . . how to improve work methods and procedures . . . how to set work standards . . . how to select qualified employees . . . how to train effective employees . . . how to apply work incentives . . . and how to improve supervision. Numerous charts, diagrams, sample forms, and sample analyses are included.
CONTENTS—Making Position Analyses. Improving Work Methods and Procedures. Setting Performance Standards. Selecting Qualified Employees. Training Effective Employees. Applying Work Incentives. Improving Supervision.

Office Training and Secretarial Skills

STANDARD HANDBOOK FOR SECRETARIES

By LOIS HUTCHINSON. Seventh Edition.
648 *pp.*, 6 *x* 9 (1956).....$6.95*t*†
Every secretarial student will want to carry this "classic" with her right into the business office. Truly a *standard* handbook, it is virtually packed with up-to-the-minute information arranged for instant reference. Gives special attention to grammar. All rules are clearly explained, and modern practices and points of usage are presented so simply that the student has no trouble grasping even the most complicated aspects.

† *Textbook edition available at educational list price.*

CONTENTS—English. Capitalization. Spelling. Pronunciation. Similar Words. Punctuation. Similar Words. Punctuation. Numbers, Letters, and Letter Writing. Addresses. Envelopes. Postal Information. Express. Telegraph. Telephone. Dictation. Typewritten Work. Carbon Copies. Copying. Copy for the Press. Filing. Diplomacy and Efficiency. Office, General. Legal Papers. Patents and Trade-Marks. Copyrights. Government Information. Business and Banking Papers. Securities. Foreign Exchange. Financial Statements. Petty Cash. Insurance. Itinerary. Abbreviations. Weights and Measurements. Time. Holidays, States, Counties, Cities, and Legislatures. Reference Books. Index.

RIPNEN—Office Building and Office Layout Planning

By KENNETH H. RIPNEN, President, Kenneth H. Ripnen Company, Inc.

182 *pp.*, 7¼ *x* 10, *illus.* (1960).....$11.00*i*

Interprets to the corporate executive, office organizer, office manager and other users, the services that may be legitimately expected of the architect—whether the planning involves a new building, a revision of existing space in an older building, or individual treatment of office space in a proposed office building, or one under construction. Outlines each of the specialized services the architect can render the consumer through the entire sequence of planning and creating an office, and gives the reader concepts, objectives, standards and techniques to supplement his own special field of work. Includes the latest standards for office space administration, for determining the amount of space required, and for planning and conditioning the office space.

ROBICHAUD—Selecting, Planning, and Managing Office Space

By BERYL ROBICHAUD, McGraw-Hill Publishing Co.

352 *pp.*, 6 *x* 9, 133 *illus.* (1958).....$9.50*i*

A guide to the efficient and economical planning and management of office space to achieve the most satisfactory working conditions. Covers every phase, from locating the office and deciding whether to buy, build, or rent, to everyday problems of cleaning and maintenance. Determining how much space is needed; planning layout for personnel and work flow needs; setting furnishing standards; handling light and other "human" factors; moving in with least disruption of service . . . all are covered. Meets the needs created by growing preponderance of office personnel in business and industry, increasing communication and record-keeping requirements, and a more discriminating clerical group.

CONTENTS—Selection of Location, Regional and Local. Build to Specification, Remodel, Own, or Rent? Building New Office Space. Leasing Office Space. How Much Office Space Is Required? Planning the Office Interior and Its Environment. Planning and Preparing the Office Layout. Furnishing and Decorating the General Office Area. Furnishing and Decorating Private Offices and Special Facilities. Planning and Arranging Office Moves. Maintaining Office Premises and Furnishings. Organizing the Space-planning and Management Function.

Orientation and Personality Development

CARNEY—Etiquette in Business

By MARIE L. CARNEY.

522 *pp.*, 5½ *x* 8 (1948).....$7.75*t*†

Filmstrips for Etiquette in Business

Set I (filmstrips 1-6).....$32.50

Set II (filmstrips 7-11).....$27.50

Each filmstrip.....$6.00

A textbook for high school and post high school students, written to give definite answers to the hundreds of questions of etiquette that come up in business, such as those concerning tactful speech, meeting people with ease, handling difficult situations, and transmitting affairs with smoothness and speed. Questions and projects included at the end of each chapter to test students' knowledge of the material.

DAME, PATRICK, AND PHELAN—Exploratory Course in Business Training: Selling, Bookkeeping, and Gregg Shorthand Simplified

By J. FRANK DAME, Jones Business College; ARTHUR S. PATRICK, University of Maryland; and DORIS PHELAN. Third Edition.

176 *pp.*, 8¼ *x* 11 (1956).....$2.80*b*

Gives students exploratory experience in the fields of selling, bookkeeping, and shorthand, in a manner to make the study of business appealing to young people. In the new edition, the "Record Keeping Section" has been renamed the "Bookkeeping Section," since the authors are dealing with *exploratory* bookkeeping. The shorthand section presents a completely new idea in exploratory shorthand. It uses clever illustrations, liberally interspersed with the shorthand, to demonstrate pictorially each principle and each outline presented.

GAVIN AND HUTCHINSON—Reference Manual for Stenographers and Typists

By RUTH E. GAVIN, City College of San Francisco, San Francisco, California and E. LILLIAN HUTCHINSON. Third Edition.

192 *pp.*, 6 *x* 9 (1961).....$2.95*t*†

Ideal reference book for classroom and on-the-job use for anyone who works with words. Gives rules and styles that are accepted and used by most businesses. Covers dictation and transcription, letters, telegrams, punctuation, numbers, spelling, hyphens, division of words, grammar, words often confused, words and phrases often misused, manuscripts, tabulation, and forms of address. Also contains a glossary to help in finding the exact answer to specific problems.

MacGIBBON—Fitting Yourself for Business

By ELIZABETH GREGG MACGIBBON. Fourth Edition.

416 *pp.*, 6 *x* 9 (1961).....$5.95*bc*

This new combination text and reference fulfills several important business-training functions. It may be used as a text in a business-guidance course or personality course, and as a supplementary book in the office and secretarial practice course. Gives practical instruction on applying for a job, adjusting to office work and personalities, managing one's income, as well as standards for correct dress and grooming.

CONTENTS—Part I. Blueprinting Careers in Business. Planning for a Career. Careers in Business. Jobs for Beginners. What Business Wants in Skill and Abilities. Part II. Sources of Jobs. Preparing for the Interview. Writing Letters of Application. The Interview. Part III. Success on the Job. Making Food on the Job. Getting Along with Others. Attitudes in Business. Dress and Grooming on the Job. Stepping Up to a

† *Textbook edition available at educational list price.*

Better Job, Part IV. Managing Your Personal Affairs. Managing Your Income. Personality in Business. Successful Living. 190pp.

NEWTON AND GREEN—How to Improve Your Personality
By Roy Newton and Helen Green, Michigan State University. Third Edition.
224 *pp.*, 6 x 9, *illus.* (1963).....$5.95*r*†
This new third edition of a highly successful book provides an up-to-date presentation of personality improvement. Vividly shows how self-improvement may be achieved with a minimum amount of time and effort. Gives a clear presentation of what personality is and how important it is, and what steps to take for its improvement. Provides an abundance of self-testing exercises and helpful self-directed activities.

SFERRA, WRIGHT, AND RICE—Personality and Human Relations
By Adam Sferra, Fairleigh Dickinson University, Teaneck, New Jersey, Mary Elizabeth Wright, Great Neck High School, Great Neck, New York, and Louis A. Rice, Fairleigh Dickinson University, Madison, New Jersey. Second Edition.
208 *pp.*, 8½ x 11 (1961).....$3.95*bc*
Non-technical, text-workbook that provides instruction in the basic concepts, principles, and procedures of personality development. Stresses the importance of getting along with people in all types of business and social situations. Contains an abundance of practical information that the student can put to immediate use.
Contents—Personality and Human Relations. Speech and Conversation. Improving Your Reading Skills. How to Study Successfully. Intelligent Behavior. Motives and Emotions. Emotional Conflict and Adjustment. Interests. Good Health and Posture. Good Grooming for Men. Good Grooming for Women. Dress for Men. Dress for Women. Good Manners. Self-Appraisal, Self-Improvement, and a Philosophy of Life.

WHITCOMB AND LANG—Charm for the Business Woman
By Helen Whitcomb, former Editor, *Today's Secretary*; and Rosalind Lang, Fashion Arts School of Charm.
In Press
This is a beauty, poise, personality, glamour, and style book designed expressly for young women planning careers in business. The 27 chapters are written with a how-to-do-it slant and combine charm instructions and business etiquette.

Secretarial, Clerical and Office Practice

ARCHER, BRECKER, AND FRAKES—General Office Practice
By Fred C. Archer, McGraw-Hill Book Co., Raymond F. Brecker, Buffalo Board of Education, and John C. Frakes, Cleveland Board of Education. Second Edition.
512 *pp.*, 6¾ x 9¼, *illus.* (1963).....$5.12*b*
Workbook .....*In Press*
A new book that fits the demands of schools offering a clerical course. Written closely to suit the needs of the student and the teacher, the book is intended to provide a "finishing course" for the non-secretarial student. Special emphasis is placed on the development of qualities and traits that are essential for success in a business office. Realistic office assignments are used to integrate old and new skills.

GREEN—Applied Dictation and Transcription
An Integrated Approach
By Dr. H. H. Green, Northwestern University.
128 *pp.*, 8½ x 11 (1957).....$2.72*b*
Records for Applied Dictation and Transcription, *set of five*.....*net* $12.50
A completely new concept in teaching transcription, this ten-lesson series of dictation and transcription jobs (a student workbook) is based on actual correspondence provided by a number of real business organizations. All the materials necessary to complete each job are provided. Extremely flexible, the project is of special interest to students and teachers of transcription, secretarial and office practice courses. An office atmosphere is recreated exactly on a set of five 45-rpm records available for use with the book. A variety of dictators' voices are used. Interruptions, alterations, interpolations and background noises give a taste of what to expect in an actual office situation.

GREGG, FRIES, ROWE, AND TRAVIS—Applied Secretarial Practice
By John Gregg, Albert Fries, Chico State College, Margaret Rowe, Thomas Carr Howe High School, and Dorothy Travis, University of North Dakota. Fifth Edition.
512 *pp.*, 6 x 9, *illus.* (1962).....$5.12*b*
Workbook $2.48*b*
Tests .....$.88*b*
Secretarial Training Records.....$19.50
Filmstrips for Secretarial Training:
Series of six sound filmstrips and six records $65.00
Series of six color filmstrips and three records $78.00
A new edition of a highly successful text covering every phase of secretarial training. Gives the potential secretary the confidence and poise needed to become the really strong "right arm" her boss needs. Develops correct personal attitudes toward business and human relations—an important factor in attaining success in today's complex business office. Emphasizes personality, grooming, and secretarial record keeping.

LEE, DICKINSON AND BROWER—Secretarial Practice for Colleges
By Dorothy E. Lee, Richmond Professional Institute, Tilly S. Dickinson, and Walter A. Brower.
248 *pp.*, 8½ x 11, *illus.* (1960).....$4.00*bc*
Working Papers.....$2.00*bc*
Secretarial Training Records.....$19.50
Filmstrips on Secretarial Practice:
Series of six sound filmstrips and six records $65.00
Series of six color filmstrips and three records $78.00
A functional textbook covering the whole area of secretarial practice appropriate for the interests and maturity of post high school students. Refresher training in shorthand and typing skills. Instruction in personality improvement, human relations, filing, telephoning, office machines, office organization, reception work, travel, mailing, shipping, financial records, and job finding. Requires work on business forms.

† *Textbook edition available at educational list price.*

PLACE AND HICKS—College Secretarial Procedures, 3rd Ed.
By IRENE PLACE, University of Michigan; and CHARLES B. HICKS, Ohio State University.
In Press
A thorough updating of the popular book designed to upgrade secretarial procedures, "glamorize" secretarial work, and provide a modern approach to business practices. Considerable new material has been added to make the book more comprehensive and more professional.

PLACE AND STRONY—The Road to Secretarial Success
By IRENE PLACE, University of Michigan, and MADELINE S. STRONY, Gregg Publishing Division.
171 *pp.*, 5½ *x* 8, 48 *illus.* (1954) . . . $5.75†
Secretarial Training Records $19.50
Correlated Text-Film Filmstrip Series—Six filmstrips and six records $65.00
Six color filmstrips and three records . $78.00
A guide and reference book for secretaries which looks at the top-level secretary searchingly to determine her status and opportunities. The book is divided into three parts: "The Framework" which leads the reader to examine herself as a secretary and improve her skills; "You Are Going Places," which suggests a plan for job growth through educational programs and self-development; and "Horizons," which describes different jobs open to women beyond that of secretarial rank.

ROOT AND BYERS—The Medical Secretary Terminology and Transcription
By KATHLEEN BERGES ROOT, Chandler School for Women, Boston, and EDWARD E. BYERS. Second Edition.
376 *pp.*, 6 *x* 9, *illus.* (1960) . . . . . $5.95†
Correlated Gregg Text-Tapes $125.00
An authoritative text-reference book giving dictation exercises introduced by preview lists of medical terms; each selected from case histories, letters, hospital records, and current medical journals. Systematic presentation of the principal medical roots, prefixes and suffixes; Gregg shorthand outlines; spelling; pronunciations; and definitions. Also includes common drugs, vitamins, and measures with shorthand outlines; medical secretarial guides, forms, and abbreviations.
CONTENTS—1. Cardiology. 2. Dermatology. 3. Diabetes. 4. Ear, Ear, Nose, Throat. 5. Gastroenterology. 6. Mental Health. 7. Endocrinology. 8. Pediatrics. 9. Gynecology and Obstetrics. 10. Anesthesia. 11. Neurology. 12. Oncology. 13. Orthopedics. 14. Thoracic Surgery. 15. Medical Abbreviations. APPENDIX A: Review of Special Forms. APPENDIX B: Index of Terminology.

STRONY AND GREENAWAY—The Secretary at Work
A Text-Workbook in Secretarial Procedures
By MADELINE S. STRONY, Gregg Publishing Division, and M. EMILY GREENAWAY, New Jersey State Teachers College. Second Edition.
160 *pp.*, 8½ *x* 11, *illus.* (1958) . . . . $2.90†
Secretarial Training Records $19.50
Correlated Text-Film Filmstrip Series—Six 35mm filmstrips and six records . . . $65.00
Series of six color filmstrips and three records $78.00
A revision of a text-workbook in secretarial procedures. Designed as a short intensive "finishing course" for the stenographic or secretarial student. Stresses what the employer wants to find in all workers—the ability to adjust to the job and to the people in the organization, to produce a good day's work, and to understand the importance of public relations and the part it plays in business. The student is shown how to reach that goal through good grooming, good work habits, and business behavior; mastery of skills; and a knowledge of human and public relations.

BREDOW—Handbook for the Medical Secretary
By MIRIAM BREDOW, formerly Eastern School for Physician's Aides, Incorporated. Fourth Edition.
384 *pp.*, 6 *x* 9, *illus.* (1959) . . . . . $8.25/†
*McGraw-Hill Paperbacks Ed.** $1.95
This is a comprehensive, easy-to-use reference covering the responsibilities of the medical secretary—from professional behavior to basic medical terminology, records, and medical forms.
CONTENTS—Preface. To the Reader. A Medical Secretary's Career. Personality. Professional Behavior. Appointments. Keeping the Doctor's Schedule. Patient Records. Like Friendliness. Patients' Histories. Confidential Records. Fees and Bills. Medical Office Bookkeeping. Filing. Insurance in Medical Practice. Completing Forms Accurately. Correspondence. The Doctor's Mail. Medical Practice. Working with a Specialist. Clinical Office Procedures. The Doctor's Medical Account. Office Management. The Doctor's Household. Professional Miscellany. Handy Knowledge. Preparation of Manuscripts. Some Doctors Are Writers. The Doctor and the Law. Rights. Duties and Pitfalls. The Dental Secretary. Some Duties Differ. Duties of the Medical Secretary in a Hospital. Medical Terminology: Speak and Spell Correctly. Appendices. Index.
* *Available only through your local bookstores.*

FELTER AND REYNOLDS—Basic Clerical Practice
By EMMA K. FELTER, Walton High School, New York, New York, and MARIE REYNOLDS, Johnson City High School, Johnson City, New York. Second Edition.
(1959) . . . . . $4.88/†
Workbook . . . . . $1.96/†
An intensive one-term program to train students in the vocational skills of the general office worker.
CONTENTS—An Office Job For You. Filing by the Alphabet. Filing by the Alphabet (Continued). Filing by the Alphabet (Continued). Filing by the Alphabet (Continued). Filing by the Alphabet (Continued). Making Telephone Calls. Receiving Telephone Calls. The Receptionist's Job. Filing Procedures. Other Filing Systems. Making the Most of Yourself. Office Mail and the Mail Clerk. Opening Mail and the Mail Clerk. Opening Mail and the Messenger. Typing Office Communications. Purchasing Procedures. Sales Procedures and Forms. Keeping Office Records. Meeting the Payroll. Telegraph Services. Duplicating and Typesetting. Other Office Machines and Devices. Handling Cash and Checks. Getting a Job. Success on the Job.

KAHN, YERIAN, AND STEWART—Progressive Filing
By GILBERT KAHN, East Side Commercial High School, Newark, New Jersey, THEODORE YERIAN, Oregon State College, Corvallis, Oregon, and JEFFREY STEWART, Virginia Polytechnic Institute, Blacksburg, Virginia. Seventh Edition.
160 *pp.*, 6 *x* 9, *illus.* (1961) . . . . . $3.56/†
Workbook Exercises in Alphabetic Filing, Second Edition . . . . . $1.40/†
Practice Materials, New File Box Series . . $3.16/†
Basic Set . . . . . $3.52/†
Advanced Set . . . . . $3.52/†
Miniature Cross-Reference Sheets (Packs of 25 . . . . . $.68/†

† *Textbook edition available at educational list price.*

Miniature Letters, New Series.....$1.00*b*
Practice Instruction Manual.....$.80*b*
Indexing Cards for Alphabetic Filing Practice .....$.88*b*
Objective Tests.....$.84*b*
Correlated Text-Film Filmstrip Series—four color filmstrips, 2 records.....$52.00

Learn modern filing through the visual approach with the authentic filing book, classroom tested by thousands of secretarial/clerical /office practice teachers. Contains hundreds of drawings, flow charts, and photos to illustrate all rules, procedures, and steps. Equal emphasis on filing in large and small offices.

KAHN, YERIAN, AND STEWART—Progressive Filing and Records Management
College Series
By GILBERT KAHN, East Side Commercial and Technical High School, THEODORE YERIAN, Oregon State College, and JEFFREY R. STEWART, Virginia Polytechnic Institute.
256 *pp.*, 6 *x* 9, *illus.* (1962).....$4.20*bc*
Practice Materials in Progressive Filing $3.40*bc*
Miniature Letters for Progressive Filing—College Series.....$1.20*bc*
Objective Tests.....$.90*bc*

This text answers the demand of business schools and colleges for a comprehensive, college-level filing book. Contains freshly written material on indexing rules and general filing procedures. Emphasizes records management. The last part of the text deals with establishing filing systems, selection of equipment and supplies, controlling and managing filing systems, transfer and disposal of records, and automation as applied to records management. Contains "Case Problems in Filing" to stimulate student interest.

LESLIE AND COFFIN—Handbook for the Legal Secretary
By LOUIS A. LESLIE, and KENNETH B. COFFIN, San Jose State College.
384 *pp.*, 6 *x* 9 (1958).....$8.25*t*†
*McG-H Paperbacks Ed.**

This new book is designed to serve two purposes: a text to train secretaries for legal office work, and an informative reference for the law secretary who wants a handbook of legal office procedures, legal terminology and important points of law. Divided into twelve sections, the book integrates law information, law office duties and legal shorthand skills. Special features are an up-to-date glossary of legal terms with correct Gregg Shorthand outlines and many representative models of common legal forms.

SECTIONS—1. The Secretary in the Law Office. 2. The Secretary Types Legal Correspondence. 3. The Secretary Takes and Transcribes Dictation. 4. The Secretary Types Legal Paper. 5. The Secretary May Be the Lawyer's Bookkeeper. 6. The Secretary Prepares Court Documents. 7. The Secretary's Part in the Settlement of Law Cases. 8. The Secretary Attends the Office Files. 9. The Secretary's Part in Probate Procedure. 10. The Secretary Uses Punctuation on Law Transcripts. 11. The Secretary Aids in Legal Research. 12. The Secretary Is a Layman in the Community.

* *Available only through your local bookstore.*

Business Machines

DOOL—Business Machine Exercises
By J. H DOOL, George Harvey Vocational School, Toronto.
In Press

A workbook designed for first year students in Business Machine classes. Its purpose is to provide the teacher with sufficient material to cover thoroughly the basic operations on the various machines to be found in the average classroom or business office. The book is divided into 5 sections; one section is allocated to each of the fundamental operations—Addition, Multiplication, Subtraction and Credit Balances, and Division. A fifth section, "Multiple Operations," covers some slightly more advanced work that is suitable for the printing calculator and the more automatic of the rotary calculators. However, the section can still be completed on other machines. In order to assist the student to obtain maximum results, the format of a workbook has been chosen.

FASNACHT AND BAUERNFEIND—How to Use Business Machines
A Brief Introductory Course
By HAROLD D. FASNACHT, La Verne College, La Verne, California and HARRY B. BAUERNFEIND, Southern Illinois University. Second Edition.
128 *pp.*, 8½ *x* 11, *illus.* (1962).....$2.36*b*

Comprehensive text containing instructions and practice materials on the full-key and ten-key adding machines, rotary and key-driven calculators. Completely lesson-planned with seven lessons for each of the four basic machines. Covers basic operating details of the latest machines. Ideal for use in secretarial/clerical /office practice classes for the brief or survey course. Excellent for classrooms with limited number of machines.

MEEHAN—How to Use the Calculator and the Comptometer, 5th Ed.
By JAMES R. MEEHAN, Hunter College, New York.
In Press

A thorough updating of the popular book designed to give complete instruction and exercises for operating keydriven calculators and comptometers. Teaches the four fundamental machine operations—addition, subtraction, multiplication, and division.

MEEHAN AND KAHN—How to Use Ten-Key Adding Machines
By JAMES R. MEEHAN, Hunter College, and GILBERT KAHN, East Side Commercial and Technical High School, Newark, New Jersey.
180 *pp.*, 8¼ *x* 11 (1955).....$1.72*b*

A new 15-lesson text-workbook that includes instruction on all the latest standard 10-key machines. The book emphasizes touch-control for higher speed, greater accuracy, and less chance of omitting or transposing a figure. The fundamental operations are introduced in the first seven lessons. *Lesson 8* reviews and tests all of these operations. Practical business applications presented in *Lessons 9–14* include the figuring of statements, payrolls, interest and mortgages, and the extending and discounting of invoices. Each of these advanced lessons features timed review problems for the further development of the fundamental skills. *Lesson 15* is a review and test of the entire course.

MEEHAN AND STUART—How to Use Rotary Calculators
By JAMES R. MEEHAN, Hunter College, and MARY STUART, Jeremiah Burke High School, Dorchester, Massachusetts. Second Edition.

† *Textbook edition available at educational list price.*

128 *pp.*, 8½ *x* 11, *illus.* (1953).....$1.96*b*
The new Second Edition places strong emphasis upon full mastery of the electrically operated and semiautomatic and fully automatic models—the types most frequently used in the modern business office. Eight of these models plus the hand-operated Monroe Educator are explained and illustrated in the text. However, since the operating principles of all machines are the same, all of the business problems may be solved on any type rotary calculator. All four fundamental operations (addition, subtraction, multiplication, and division) are covered in the first ten lessons. Then, all applications are taught in the second ten lessons. Finally, the last ten give the student rounded experience in the working of actual business problems.

MEEHAN AND KAHN—How to Use Adding Machines
Ten Key, Full-Key, Printing Calculator
By JAMES MEEHAN, Hunter College and GILBERT KAHN, East Side Commercial and Technical High School.
128 *pp.*, 8½ *x* 11, *illus.* (1962).....$2.48*b*
A new, triple-combination text-workbook designed to give complete instruction and exercises for operating the newest printing calculator as well as the ten-key and full-key machines.

WALKER, ROACH AND HANNA—How to Use Adding and Calculating Machines
By ARTHUR L. WALKER, J. KENNETH ROACH, and J. MARSHALL HANNA. Second Edition.
250 *pp.*, 8½ *x* 11, *illus.* (1960).....$3.36*b*
An instruction-practice book covering operation of the full keyboard adding machine, ten-key adding machine, rotary calculator, and the key-driven calculator. Completely redesigned; illustrations of newest models; practical business application; simple enough for self-instruction.

GREGG SHORTHAND: DIAMOND JUBILEE SERIES

Basic and Supplementary Books

Suggested Sequence of Texts for Gregg Shorthand, Diamond Jubilee Series
1st semester—Gregg Shorthand, Diamond Jubilee Series or Gregg Shorthand, Functional Method
2nd semester—Gregg Dictation, Diamond Jubilee Series
3rd semester—Gregg Transcription Simplified, Second Edition
4th semester—Gregg Speed Building Simplified, Second Edition; or Gregg Advanced Dictation Simplified
Gregg Speed Building Simplified is also available in a one-year course for schools where a one-year text is preferred or required for the third and fourth terms.
For Colleges: Gregg Shorthand Simplified for Colleges, Second Edition, Volume I and Volume II
Gregg Transcription for Colleges
Gregg Speed Building for Colleges Simplified, Second Edition
Expert Shorthand Speed Course, Simplified Edition
The Simplified textbooks were planned and written in the sequence suggested to provide the maximum integration in developing vocabulary and dictation and transcription skill.

GREGG, LESLIE, AND ZOUBEK—Gregg Shorthand
Diamond Jubilee Series
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
388 *pp.*, 6 *x* 9, *illus.* (1963).....$4.95*t*†
Workbook for Gregg Shorthand, Including Functional Method, Diamond Jubilee Series. (Leslie & Zoubek).....$1.88*b*
Student's Transcript of Gregg Shorthand, Diamond Jubilee Series.....$1.40*b*
This new text culminates 75 years of the highly successful Gregg Shorthand system. In this new revision there is greater simplification of the principles to reduce the "learning load." This enables students to learn more quickly and easily. Throughout, there is greater emphasis on the non-shorthand factors of transcription—spelling, punctuation, syllabication, vocabulary building, and office procedures. New organization makes available very early in the course a far richer vocabulary than was the case in the previous editions.

LESLIE AND ZOUBEK—Gregg Shorthand, Functional Method
Diamond Jubilee Series
By LOUIS A. LESLIE and CHARLES E. ZOUBEK.
516 *pp.*, 6 *x* 9, *illus.* (1963).....$4.28*b*
Workbook for Gregg Shorthand, Including Functional Method, Diamond Jubilee Series. $1.92*b*
This new revision is the alternate text for teachers who prefer the Functional approach. It may be used instead of *Gregg Shorthand, Diamond Jubilee Series.* This text incorporates all of the new features found in the Diamond Jubilee Series, such as, more extensive instruction in vocabulary, grammar, and other pre-transcription aids.

LESLIE, ZOUBEK, AND STRONY—Gregg Dictation
Diamond Jubilee Series
By LOUIS A. LESLIE, CHARLES E. ZOUBEK, and MADELINE STRONY.
Student's Transcript of Gregg Dictation, Diamond Jubilee Series.
516 *pp.*, 6 *x* 9, *illus.* (1963).....$4.28*b*
Transcription Workbook for Gregg Dictation, Diamond Jubilee Series.....$1.96*b*
This new 80-lesson text is recommended for the second semester. Designed to review and strengthen the student's knowledge of Gregg Shorthand. Develops ability to construct new outlines from dictation and extends knowledge and skill in the basic elements of transcription. Greater emphasis is placed on grammar, vocabulary building, spelling, punctuation, and other non-shorthand elements.

LESLIE AND ZOUBEK—Gregg Transcription
Diamond Jubilee Series
By LOUIS A. LESLIE and CHARLES E. ZOUBEK.
512 *pp.*, 6 *x* 9 (1963).....$4.56*b*

† *Textbook edition available at educational list price.*

Provides student with the opportunity to combine skills in shorthand and typewriting, with his skills in the mechanics of English and to use these abilities in the production of mailable letters—letters that are accurately transcribed and typed, correctly punctuated and spelled, and attractively placed on the letterhead.

GREGG, LESLIE, AND ZOUBEK—Gregg Speed Building Simplified

By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK. Second Edition.

448 *pp.*, 5½ *x* 8 (1957).....$4.36*b*

Student's Transcript.....$1.48*b*

Text for the advanced (third or fourth term) course in speed building, where objectives are rapid increase in speed and effective mastery of transcription English factors. An 80-lesson book with 36,000 words of practice material in print and 32,000 words in perfect Gregg Simplified plates. Has sixteen 5-assignment units, each of which gives attention to construction of new outlines, to mastery of more word families, to skill in writing proper names and shorthand phrases, and practice for improved shorthand penmanship. Pattern of marginal reminders on spelling and punctuation, characteristic of the Gregg Simplified series, is included. Text is completely articulated with other volumes in the series. Transcript of all shorthand plates are included in the Teacher's Handbook.

GREGG, LESLIE, AND ZOUBEK—Gregg Speed Building Simplified, One-Year Course

By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.

671 *pp.*, 5½ *x* 8 (1951).....$5.96*b*

Part I contains the same material as now appears in *Gregg Speed Building Simplified*—an 80-lesson book. *Part II* is new and is organized into 16 chapters of 5 lessons each making a total of 80 lessons. Each chapter is built around the subject matter of a definite field or activity such as: Insurance, Advertising, Credit, Magazines and Books, Vacations, Traveling, Clothing, Electrical Appliances, Banking and Investments, Education, Real Estate, Home Building and Operation, Government Dictation.

HOSLER, GRUBBS AND WAGONER—Gregg Transcription for Colleges

By RUSSELL J. HOSLER, University of Wisconsin; ROBERT L. GRUBBS, University of Pittsburgh; and GEORGE A. WAGONER, University of Tennessee.

256 *pp.*, 8½ *x* 11, *illus.* (1959).....$4.75*bc*

Student's Transcript.....$1.80*bc*

An advanced shorthand book, designed as a terminal shorthand course in business colleges, junior colleges, colleges, and universities. May be used immediately following *Gregg Shorthand Simplified for Colleges, Volume 2, Second Edition*, or following *Gregg Speed Building for Colleges, Second Edition*. Provides systematic review of major shorthand principles, in addition to training in dictation and transcription techniques.

LESLIE AND ZOUBEK—Gregg Advanced Dictation Simplified

By LOUIS A. LESLIE and CHARLES E. ZOUBEK.

447 *pp.*, 5½ *x* 8 (1950).....$4.36*b*

The lively, all-shorthand book containing more than 70,000 words of practice material. Ideal as a fourth-semester text, especially for classes that started with the *Functional Method Manual, First* or *Second Editions*. The book stresses theory review, vocabulary development, and integrated transcription English.

LESLIE, ZOUBEK, AND HOSLER—Gregg Shorthand Simplified for Colleges, Volume I

By LOUIS A. LESLIE, CHARLES E. ZOUBEK, and RUSSELL J. HOSLER, University of Wisconsin. Second Edition.

384 *pp.*, 6 *x* 9, *illus.* (1958).....$4.75*bc*

Student's Transcript, Vol. I.....$1.75*bc*

Workbook for Gregg Shorthand Simplified for Colleges, Second Edition, Volume I $2.25*bc*

Instruction Tapes for Gregg Shorthand Simplified for Colleges, Volume I, Set 1–35 *net* $225.00

A new edition of the very popular basic *Gregg Shorthand* textbook written especially for the first term college course, with greater emphasis on transcription and typographical attractiveness. A sound presentation of the principles of *Gregg Shorthand Simplified* geared to promote more rapid, effective learning through the use of material with more appeal to the adult mind. The material is presented in such a way that the student can easily study by himself if necessary. Theory presentation is broken down into small units for faster learning, with each new point presented in a separate paragraph. The reading and writing practice material is interesting and informative to the college student . . . material that he will need and *use* throughout his business career. *Volume I* contains more than enough material for a successful first-term course: 70 lessons, the first 54 covering theory; the additional 16 lessons concentrate on daily review and introduce the student to skill building.

LESLIE, ZOUBEK, AND HOSLER—Gregg Shorthand Simplified for Colleges, Volume II

By LOUIS A. LESLIE, CHARLES E. ZOUBEK, and RUSSELL J. HOSLER, University of Wisconsin. Second Edition.

512 *pp.*, 6 *x* 9, *illus.* (1958).....$5.50*bc*

Student's Transcript, Vol. II.....$2.00*bc*

Workbook for Gregg Shorthand Simplified for Colleges, Volume II.....$2.40*bc*

A continuation of the basic program of *Gregg Shorthand Simplified for Colleges*. The practice material is interesting, stimulating, and gives a wealth of information that the student can put to immediate use in business. *Volume II* features the marginal reminders, systematic theory reviews, word-analogy drills, and other learning devices that have contributed to the effectiveness of all the books in the Gregg Shorthand Simplified Series.

GREGG, BLANCHARD AND BALDWIN—Gregg Speed Building for Colleges, Simplified

By JOHN ROBERT GREGG, CLYDE I. BLANCHARD and WOODROW BALDWIN, Simmons College, Boston. Second Edition.

576 *pp.*, 6 *x* 9 (1958).....$5.60*bc*

Student's Transcript.....$1.80*bc*

College-level text, with 16 five-assignment units for advanced training. Lesson planned for maximum effectiveness in building a high level of shorthand speed. Provides a complete review of the theory of Gregg Simplified. Includes complete treatment of transcription English and introduces practical transcription experiences. New edition has greater emphasis on transcription and typographical attractiveness, plus new student helps.

BLANCHARD AND ZOUBEK—Expert Shorthand Speed Course, Simplified Edition
By CLYDE I. BLANCHARD and CHARLES E. ZOUBEK.
512 *pp.*, 5½ *x* 8, *illus.* (1951).....$5.95*bc*
An 80-lesson text designed to develop the student's skill from 120 to 160 words per minute. An introduction to shorthand reporting. Features 200 reporters' short cuts, approximately five being in each of the first 40 assignments. Contains about 100,000 words of literary matter, about half of which are in shorthand and half of which are in type. Key to plates and suggestions for most effective use of text included in Teacher's Handbook.

BLANCHARD AND ZOUBEK—Most-Used Congressional Record Terms
By CLYDE I. BLANCHARD and CHARLES E. ZOUBEK. Second Edition.
64 *pp.*, 5½ *x* 8 (1952).....$2.25*bc*
A list of words and phrases commonly used in Congressional debate—with their *Gregg Shorthand Simplified* outlines. Recommended for reference use by shorthand reporters and for students who have completed two or more years of shorthand. May be used in the introductory shorthand reporting course.

GREGG, LESLIE, AND ZOUBEK—Gregg Shorthand Dictionary
Diamond Jubilee Series
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
384 *pp.*, 6 *x* 9 (1963).....$5.50*t*†
This new revision contains outlines for 35,000 words. It also lists shorthand outlines for about 4,000 names and geographical expressions. A new feature that should be of special value to stenographers is the inclusion of syllabication.

GREGG, LESLIE, AND ZOUBEK—Gregg Shorthand Dictionary, Miniature
Diamond Jubilee Series
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
384 *pp.*, 3½ *x* 4½ (1963).....$3.60*bc*
Handsomely bound, novel, useful, it makes a very appropriate gift or award for shorthand achievement.

GREGG, LESLIE, AND ZOUBEK—Home-Study Course in Gregg Shorthand Simplified
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
60 *pp.*, each, 5½ *x* 8 (1950)
Complete Set.....$8.25*bc*
Lessons 1–7, each.....$1.40*bc*
Student's Home-Study Instruction Manual and Tests for Gregg Speed Building Simplified. 34 *pp.*, 5½ *x* 8 (1950).....$1.20*bc*
The correspondence-course adaptation of the *Gregg Shorthand Manual Simplified.*

GREGG, LESLIE, AND ZOUBEK—Most-Used Words and Phrases
Diamond Jubilee Series
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
128 *pp.*, 5½ *x* 8 (1963).....$1.68*b*
This is a collection of frequently-used words and phrases correlated paragraph by paragraph with *Gregg Shorthand, Diamond Jubilee Series.*

GREGG, LESLIE, AND ZOUBEK—Phrases of Gregg Shorthand Simplified
By JOHN ROBERT GREGG, LOUIS A. LESLIE, and CHARLES E. ZOUBEK.
125 *pp.*, 5½ *x* 8 (1949).....$2.80*b*
The authoritative "phrase dictionary" for *Gregg Shorthand Simplified.* Presents more than 4,000 phrases—all that are recommended by the authors of Gregg Simplified—arranged both alphabetically (for ready reference) and by phrase families (for drill and practice). A special section on legal-dictation phrases included.

LESLIE AND ZOUBEK—Graded Transcribing Tests in Gregg Shorthand Simplified
By LOUIS A. LESLIE and CHARLES E. ZOUBEK. Second Edition.
128 *pp.*, 5½ *x* 8 (1955).....$1.64*b*
A booklet of 54 tests, one for each of the lessons of the *Gregg Shorthand Manual Simplified,* Second Edition. The tests consist of two parts: transcription of word lists and transcription of connected matter. Pages are perforated so that the tests may be torn out and easily corrected. For use as a check of student's grasp of theory, as graded exercises in transcription, as a progress record, and as a quick homework check.

LESLIE AND ZOUBEK—Dictation for Transcription
Diamond Jubilee Series
By LOUIS A. LESLIE and CHARLES E. ZOUBEK.
In Press
Ideal teacher's source book containing carefully selected, actual business letters and memoranda for developing and testing transcription skill.

SMITHER—Gregg Medical Shorthand Manual and Dictionary
By EFFIE B. SMITHER.
320 *pp.*, 5½ *x* 8 (1953).....$5.50*bc*
Gives a comprehensive medical vocabulary, a basic knowledge of the formation of medical words, commonly recurring phrases, a detailed study of courtroom medicine, and detailed cases in both shorthand and longhand. May be used as a reference or a text for a course in medical shorthand. Contains suggestions for teaching and for testing.

SISTER M. THERESE—Dynamic Shorthand Skill Building
A Text-Workbook for Catholic Schools
By SISTER M. THERESE, O.S.F., Madonna High School, Aurora, Illinois.
192 *pp.*, 7¼ *x* 9⅞, *illus.* (1959).....$2.24*b*
A supplementary shorthand book for Catholic School students. Can be used anytime after completion of the basic Gregg Shorthand Manual. Primary purpose is the development of shorthand skill and speed building; the secondary purpose is to integrate the social teachings of the church into the shorthand course. Material is based on popular editions of three encyclicals: communism, social justice, and Christian marriage.

STRONY, GARVEY, AND NEWHOUSE—Refresher Course in Gregg Shorthand Simplified
By MADELINE S. STRONY, M. CLAUDIA GARVEY, and HOWARD L. NEWHOUSE, all of the Gregg Publishing Division, McGraw-Hill Book Co.
128 *pp.*, 6 *x* 9 (1962).....$3.40*bc*

† *Textbook edition available at educational list price.*

Intensive 20-lesson review of Gregg Shorthand theory principles, brief forms, most-used phrases, and high-frequency words. Provides quick reinforcement of previous learning and builds stronger foundation for speed development.

YOUNG—Directed Homework in Gregg Shorthand Simplified

A Workbook

By I. H. YOUNG, Central Commercial High School, New York City. Second Edition.

160 *pp.*, 8½ *x* 11 (1955).....$2.40*b*

The Second Edition is a self-supervising workbook for mastery of *Gregg Shorthand Simplified*. It provides 70 daily homework assignments, following in sequence the content of the *Gregg Shorthand Manual Simplified*, Second Edition. Every new principle is covered by a guiding question. The illustrative words, brief forms, and phrases are presented in sentences and are practiced in special drill exercises. There are daily and periodic planned reviews of previous work.

ZOUBEK—Previewed Dictation

By CHARLES E. ZOUBEK.

297 *pp.*, 5½ *x* 8 (1950).....$4.75*bc*

Five-minute takes counted at speeds ranging from 50 to 150 words a minute, previewed in Gregg Shorthand Simplified. For use at any class level after completion of the new theory presentations in the *Gregg Simplified Manuals*. Richly supplemented with topical bibliographies and analytical study activities.

ZOUBEK—Speed Dictation with Previews in Gregg Shorthand

Diamond Jubilee Series

By CHARLES E. ZOUBEK.

320 *pp.*, 5⅝ *x* 3⅜ (1963).....$5.25*bc*

This is a teacher's dictation book designed for use after the completion of *Gregg Shorthand, Diamond Jubilee Series*. It contains approximately 200 "takes" counted for dictation at speeds ranging from 50 to 140 words a minute. Each "take" is preceded by a shorthand preview.

ZOUBEK AND RIFKIN—Gregg Reporting Shortcuts

A Compilation of Shortcuts Used by Noted Gregg Reporters

By CHARLES E. ZOUBEK, Gregg Publishing Division, and MORRIS W. RIFKIN, New York State Supreme Court. Second Edition. (1959) $7.50*bc*

A compilation of several thousand reporting shortcuts used and recommended by successful Gregg reporters. Introduction by Charles L. Swem. Includes useful phrases, phrase families, medical words and phrases, legal words and terms, chemical terms, similar outlines, and a testimony "take" to provide practice. A counted key is provided for practicing the "take" from dictation.

Spelling

CRAIG AND LESLIE—Spelling at Your Typewriter

By BITHA CRAIG, and LOUIS A. LESLIE. Third Edition.

95 *pp.*, 6½ *x* 9¼ (1954).....$2.04*b*

The popular supplementary typing drill book with the unique feature for the teaching of spelling. The straight copy is preceded by a spelling lesson, which is a typewriting preview. The straight copy is word-counted for practice and testing purposes. The new edition includes an appendix of prominent cities and states, common phrases, foreign phrases, foreign words, and abbreviations.

CRANK, CRANK, AND CONNELLY—Words

Spelling, Pronunciation, Definition, and Application

By DORIS CRANK, Illinois State Normal University, Normal, Illinois, FLOYD CRANK, University of Illinois, Urbana, Illinois, and MARY CONNELLY, Boston University, Boston, Massachusetts. Fifth Edition.

240 *pp.*, 6½ *x* 9¼ (1962).....$3.48*b*

Tests .....$.88*b*

Scientifically engineered, lesson-planned text is the most up-to-date book yet. After a pre-examination, the text begins where the student is, concentrating on what he doesn't know. The student progresses upward from a general vocabulary to a general business vocabulary, and finally to a technical vocabulary organized by major types of businesses. Its lesson arrangement makes it a valuable addition to classes in shorthand, typing, secretarial practice, and business English. Contains many check-up lessons and student activities.

CONTENTS—Taking Stock of the Words You Know. Part I. Words Spelled According to Sound and Meaning. Pre-test. Spotting Sound Errors. Spotting Meaning Errors. Analysis of Pre-test. Attacking Sound Errors. Attacking Meaning Errors. Part II. Words Spelled According to Rules and Words Requiring Special Care. Pre-test. Spotting "Rule" Errors. Spotting "Carelessness" and "Demon" Errors. Analysis of Pre-test. Attacking Rule Errors and Other Difficulties. Learning to Spell New Words. The Four-Step Approach. Words for Your General Vocabulary. Words for Your General Business Vocabulary. Words for Your Specialized Vocabulary.

LESLIE—20,000 Words

Spelled, Divided, and Accented

By LOUIS A. LESLIE. Fourth Edition.

256 *pp.*, 3⅝ *x* 5¼ (1959).....$2.50*t*†

Revision of a popular pocket-sized volume which serves as a handy reference book to check spelling and syllabication of frequently used business words. No definitions—consequently the type is large enough for quick and easy reference. The Fourth Edition omits several hundred obsolescent words and includes about 400 additional new useful words. Special sections on spelling rules, word-division rules, homonyms, punctuation rules.

Typewriting

ROWE, LLOYD, AND WINGER—Gregg Typing/191 Series, Book One—General Typing

By JOHN L. ROWE, University of North Dakota, Grand Forks, ALAN C. LLOYD, McGraw-Hill Book Co., and FRED WINGER, Oregon State University, Corvallis.

288 *pp.*, 7¾ *x* 10¾, *illus.* (1962)....$3.96*b*

Learning Guides and Working Papers for Gregg Typing/191 Series, Book One—General Typing, Parts 1–6.....$1.08*b*

Learning Guides and Working Papers for Gregg Typing/191 Series, Book One—General Typing, Parts 7–12.....$1.28*b*

† *Textbook edition available at educational list price.*

Gregg Typing/191 Series, Book Two—Office Production Typing
292 *pp.*, 7¾ *x* 10¾, *illus.* (1963)...$3.96*b*
Learning Guides and Working Papers for Gregg Typing/191 Series, Book Two—Office Production Typing, Parts 1–6.....$1.28*b*
Learning Guides and Working Papers for Gregg Typing/191 Series, Book Two—Office Production Typing, Parts 7–12.....$1.28*b*
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8 filmstrips, 4 records, Set 2 (color).$112.00
New high school typing text enables your students to reach higher levels of typing power by routines in which speed practice, accuracy, and production practice reinforce one another. With GT/191, students achieve a higher basic skill and apply a greater proportion of that skill to production typing. You can expect production standards at least 10% higher than previous national standards.

LLOYD, ROWE, AND WINGER—Gregg Typewriting for Colleges, 2nd Ed.
By ALAN C. LLOYD; JOHN L. ROWE, University of North Dakota; and FRED E. WINGER, Oregon State University.
In Press
Organized to fit the varied instruction situation in typing courses on the post-high school level: divides precisely into quarters or semesters, into single-period or double-period programs. Available in Basic, Intensive, and Complete textbooks.

LLOYD, ROWE, AND WINGER—Typing Skill Drives
By ALAN C. LLOYD, Gregg Editorial Staff, JOHN L. ROWE, University of North Dakota, and FRED WINGER, Oregon State College.
48 *pp.*, 6 *x* 9 (1960).....$1.64*b*
Teaching Tapes for Typing Skill Drives
each $13.50
set of 10 reels $125.00
A compilation of nearly 200 different drills—virtually every known type of drill for correcting, improving, and perfecting skill in operating the typewriter. This book may be used in two ways: as a textbook for period-length, all-out drives for higher speed and accuracy, and as a remedial drill book. There is a complete index to typing problems and the drills to use in solving them. To enrich the use of the book, a complete program of correlated instructional tapes is available. Use of these tapes is not required, but it is heartily recommended.

COOK, MORRISON, TRYTTEN AND WHALE—Gregg Junior High Typing
By DR. FRED S. COOK, Stanford University, DR. PHYLLIS MORRISON, Detroit, DR. JOHN M. TRYTTEN, Universtiy of Michigan, and LESLIE J. WHALE, Director of Business Education, Detroit.
224 *pp.*, 7¾ *x* 10¾, *illus.* (1959)....$3.88*b*
Problems, Projects, and Papers; Part I, Chapters 1–8.....$1.44*b*
Problems, Projects, and Papers; Part II, Chapters 9–14 and Special Projects..$1.44*b*
Typing instruction for the junior high school student—seventh, eighth, or ninth grade level. Sufficient material for a solid one-year course on a daily basis, but may also be used for courses of less than a full year's schedule. Based on a documented, formal, one-semester experiment in the Detroit junior high schools.

FRISCH AND SIVINSKI—Applied Office Typewriting
A Practice Set in Clerical Typing
By VERN A. FRISCH, New Rochelle High School, New Rochelle, New York and JOAN SIVINSKI, Gregg Publishing Division. Second Edition.
Enveloped Kit (1961).....$3.08*b*
Imaginative, new set for training students to type neat, accurate business papers and forms . . . quickly and intelligently. Organized as a regular in-service training program for clerical workers. Provides varied experience in handling business forms and papers for 25 real companies—55 different jobs. Enveloped kit contains "Desk Organizer," business forms, carbon paper, cards, worksheets, and complete job instructions—a total of 125 pieces of working materials.

GRUBBS AND WHITE—Sustained Timed Writings, 2nd Ed.
By ROBERT L. GRUBBS, University of Pittsburgh; and JAMES L. WHITE, East Carolina College.
96 *pp.*, 7¾ *x* 10¾ (1963).....$2.04*b*
Features selections of Kimball and Bowle contest copy brought up-to-date and refined. Approximately one-third of the timed writing material is new. Builds and sustains typewriting speed and accuracy.

HUMPHREY, LAMBERT, AND NEWHOUSE—Timed Writings for Typing and Transcribing
By KATHERINE HUMPHREY, Iowa State College, ALLIE DALE LAMBERT, Board of Education, Tulsa, Oklahoma, and HOWARD L. NEWHOUSE, Gregg Publishing Division.
96 *pp.*, 8½ *x* 11 (1962).....$2.20*b*
This new, unique skill-building, production-building text consists of forty 2-page spreads in which shorthand appears on one page and the printed key appears on the facing page. Both presentations are especially arranged so that a student may use either or both pages for skill-building practice; thus, the book is a skill builder in either straight typing of transcribing. Materials is divided equally into letters, reports, memorandums, and manuscripts. Directions and illustrations are provided so that the student may also type the material—from either shorthand or print—in correct arrangement. Thus, the book is a production builder, too.

LILES, BRENDEL AND KRAUSE—Typing Mailable Letters
Practice Projects in Placement, Punctuation, Proofreading, and Production
By DR. PARKER LILES, LEROY A. BRENDEL, and RUTHETTA KRAUSE.
150 *pp.*, 8½ *x* 11, *illus.* (1960).....$2.36*b*
A text-workbook containing 100 business letters, 100 letterheads on which the letters are to be typed, and a concise digest of rules governing arrangement and punctuation of business letters. Arranged in the form of 25 projects that systematically and cumulatively present, review, and illustrate everything (except shorthand) there is to know about business letter typing.
CONTENTS—Introduction. Letter Placement. Letter Paragraphing. Paragraph and Enumeration Display. The Correspondent's Courtesies. What Business Does about Word Division. What Business Does about the Apostrophe. What Business Does about Capitals. Punctuation—The Hearing Aid. How Business Uses the Comma. How Business Uses the Semicolon. The Care and Treatment of a Subject Line. How Business

Uses the Quotation Mark. How Business Uses the Colon. When Business Spells Out Numbers. "Dictation Challenge" No. 1. "Dictation Challenge" No. 2. "Dictation Challenge" No. 3.

LLOYD AND HOSLER—Personal Typing
By ALAN C. LLOYD and RUSSELL HOSLER. Second Edition.
(1959) $3.60*b*
An intensive one-term text for teaching mastery of the typewriter keyboard and operating parts, development of a 30-words-a-minute copying speed, and adequate skill in the production of personal papers. Contains instructions and materials for 50 to 80 periods of 40 minutes each. A nonvocational text intended for nonbusiness students. Emphasis on academic typing.

LLOYD, ROWE, AND WINGER—Typing Power Drills
By ALAN C. LLOYD, JOHN L. ROWE, and FRED E. WINGER, Oregon State College.
64 *pp.*, 6 *x* 9 (1956).....$1.72*b*
A compilation of nearly 200 different drills—virtually every known type of drill for correcting, improving, and perfecting skill in operating the typewriter. Three indexes are provided: by type, by name, and by purpose. Purposes of drills are indicated by classification under which they appear and by the title given. Most drills are a single list (60 spaces) in length. Only a few selections of paragraph copy are given; these are word-counted and implemented by a word-count scale. All the copy matter is in typewriter type and lines are grouped carefully to provide maximum readability to the typist.

McCONNELL AND DARNELL—Building Typing Skill—Part I (Lessons 1–125)
By JEAN MCCONNELL, Head, Business Education Dept., Winston Churchill Secondary School, Scarborough, Ontario, and WILLIAM L. DARNELL, Editor-in-Chief, McGraw-Hill Co. of Canada.
169 *pp.*, 7¾ *x* 10½ (1962).....$2.95
Building Typing Skill—Part II (Lessons 126–256) .....*In Press*
This is the first in a series of textbooks designed to instruct the student in basic typewriting skills and techniques. The chapters are arranged in five cycles of twenty-five lessons each. The typewriter keyboard is covered in the first cycle. In each succeeding cycle, five lessons are devoted to skill building, five to manuscript and display typing, five to typing business correspondence, five to typing tabular work, and five to review and testing. In every lesson, provision is made for the review of skills already acquired.

Special emphasis has been placed on composition at the typewriter, a skill that is particularly useful in personal use typing, and in the modern business office.

MOUNT AND HANSEN—Progressive Typewriting Speed Practice
By DICK MOUNT and KENNETH J. HANSEN, Colorado State College, Greeley, Colorado. Second Edition.
96 *pp.*, 8 *x* 11 (1961).....$2.04*b*
A compact text containing 168 timed-writing practice selections for building typewriting speed with accuracy. Excellent for group or individual practice. All selections are printed in extra large typewriter type and categorized according to length, speed, and difficulty. Contains 1-, 2-, 3-, and 5-minute selections, plus special 1-minute category for number- and symbol-typing practice in the context of business correspondence.

PEPE—Personal Typing in 24 Hours
By PHILIP S. PEPE. Third Edition.
64 *pp.*, 8¼ *x* 11, *illus.* (1960).....$3.50*rt*
A revision of the popular book designed for the short, intensive course (with or without teacher supervision) where typewriter touch control is the main objective. A tremendous favorite with adult education classes! The book is divided into two parts. The first contains 24 one-hour assignments, each *complete* on one page (with warm-up automatic review, par requirements for the hour, and short, easy instructions by "Typo the Tutor," a cartoon character created by the author). The second part contains skill-development material and arrangements of typewritten work, complete with explanations and numbered job assignments. The new edition contains ample material for courses up to one semester in length and provides a balanced program of training that goes beyond that of previous editions.

PEPE—Refresher Typing in 24 Hours
By PHILIP S. PEPE.
64 *pp.*, 8½ *x* 11, *spiral binding* (1958) $2.60*b*
The author of *Personal Typing in 24 Hours* has written this new refresher course in typing skills, techniques, and applications. Useful for group or individual use. Contains 24 lessons, one hour each, and a supplement. Each lesson includes speed and accuracy exercise, keyboard review drill, typewritten spelling drill, typewritten punctuation drill, typewritten "technical English style points" drill, proofreading practice, production practice on letters, and personal efficiency in the use of the typewriter. The supplement includes many extra drills and exercises, and illustrations of letter arrangements and placement. Complete self-teaching directions are given.

REYNOLDS AND SKIMIN—Office Practice Typewriting
By HELEN REYNOLDS and ELEANOR SKIMIN, San Francisco State College.
159 *pp.*, 7¾ *x* 10¾ (1954).....$3.36*b*
Working Papers.....$1.60*b*
A unique basic textbook designed for the two-fold purpose of teaching typewriting and giving sound, practical training in office practice, as well. Features a modified form of job breakdown to teach such topics as: office organization, personality, letter typing and production, handling mail, indexing, filing, telephone and telegrams, stencil duplication, tabulation, and business forms. The ideal program for schools not offering a separate clerical or office practice course, the text provides a needed "bridge" between classroom theory and on-the-job experience. Recommended for use in the fourth semester of a two-year program.

ROOT AND BYERS—Medical Typing Practice
By KATHLEEN BERGER ROOT and EDWARD E. BYERS, Dean, Chandler School for Women, Boston.
80 *pp.*, 8 *x* 11 ((1962).....$2.75*bc*
New typing practice material containing medical case histories, medical articles, and correspondence. Orients typists and secretaries to difficult medical vocabulary and terminology. Covers ten areas of medicine. Correlated teaching tapes are available.

† *Textbook edition available at educational list price.*

ROSZELL AND HEWITT—High School Typewriting
By M. C. ROSZELL and B. H. HEWITT, Toronto, Ont. Third Edition.
130 *pp.*, 8½ *x* 11 (1961).....$2.25
This is a major revision of a popular high school typewriting book. The key-board and skill-building sections have been expanded and lesson-planned. The key-board is covered in thirteen units and the following sixty-four units build typing skill. Section VI includes basic business letter information, explaining in detail the parts of the letter, placement, punctuation, envelopes, and provides practice in each of these skills. Section VII—Centering; Section VIII—Tabulation.

ROWE AND ETIER—Typewriting Drills for Speed and Accuracy
By JOHN L. ROWE, University of North Dakota, and FABORN ETIER, University of Texas. Second Edition.
96 *pp.*, 7¾ *x* 10¾, *illus.* (1959)....$2.04*b*
A spiral-bound drill book of special practice materials, designed to help all typists improve their basic speed and accuracy. Special arrangement enables the typist to find quickly, and to concentrate on, the kind of practice matter that will aid him most. Twenty-five speed units; twenty-five accuracy units. Contains ten self-administering progress measurement tests.

THOMPSON—Tabulation Typing
By JAMES M. THOMPSON, San Jose State College.
64 *pp.*, 7¾ *x* 10¾ (1955).....$1.88*b*
A full development of the use of the non-arithmetical "easy way" tabulation procedure. It "telescopes" all the tabulation usually taught in a two-year typing textbook into 64 pages of intensive, interesting training. Features a careful graduation of exercises, leading smoothly and easily from the simplest kind of tabulation problem to the most complex.

THERESE—Personal Typing, Catholic School Edition
By SISTER M. THERESE, O.S.F.
128 *pp.*, 7¾ *x* 10¾, *illus.* (1960)....$3.60*b*
A new text enriched with Christian thought for personal-use or academic typing courses in Catholic schools. Completeness and clarity of directions in the text require a minimum of classroom supervision.

French Language Publications

Shorthand

ERNESTINE—Sténographie Gregg Simplifiée
By SR. MARY ERNESTINE, S.S.A.
152 *pp.*, 6 *x* 9 (1962).....$5.00*bc**
Exercises $4.00*bc**
This new presentation of theory parallels the presentation in the *Gregg Shorthand Manual Simplified*, making the text ideal for those schools teaching bilingual shorthand. All material in this text is new, and has been prepared with great care and skill by one of Canada's outstanding French-speaking business educators.
** Special price in Canada.*

ERNESTINE—Vitesse Progressive en Sténographie Gregg Simplifiée
By SISTER-MARIE ERNESTINE, S.S.A.....$2.95
This is the first book of its kind written in the French language, and was prepared by the author after repeated requests from shorthand teachers. The book's principal aim is to further develop the abilities or the stenographic possibilities of the student after he has completed an initial course in French Gregg Shorthand. The book comprises fifty lessons and includes 142 letters written in shorthand and 158 letters for dictation or for transcription into shorthand. The contents of each chapter deal with a particular type of business e.g., Chapter I is concerned with Publicity, Chapter II with Insurance, and so on.

Spanish Language Publications

Commercial Spanish

ACUÑA MONTENEGRO—Correspondencia y Documentación Comercial Moderna
POR JOSÉ R. ACUÑA MONTENEGRO, San José, Costa Rica.
280 *págs.* (1955).....$4.50*bc*
Este libro tiene por objeto la preparación práctica de estudiantes y personal de oficina. Es un nuevo y completo curso para el aprendizaje fácil y práctico de la redacción y documentación comercial.

O'NEILL—La Psicología en la Correspontradencia Comercial
Por ANA MARIA O'NEILL, Universidad de Puerto Rico.
474 *págs.*, 22.2 *x* 15.2 *cm.* (1951)....$5.50*bc*
En este libro se hace un estudio completo de los conocimientos comerciales, literarios, psicológicos y de otra índole que debe tener el corresponsal.

Filing

URIBE Y CHARNECO—Técnicas Modernas de Archivo
POR MARTA DITTEL DE URIBE, Institución Cooperativa Educacional, Lincoln School, San José, Costa Rica y AMALIA LLABRES DE CHARNECO, Supervisora, Sección de Educación Comercial, Departamento de Instrucción Pública, Hato Rey, Puerto Rico.
144 *págs.*, 18.4 *x* 25 *cm.* (1960).....$2.75*bc*
Es una combinación de libro de texto y manual de práctica ideado especialmente para servir de curso básico de archivo. Contiene tarjetas para archivar y cartas en miniatura con instrucciones detalladas para su uso. Comprende los métodos y sistemas de archivo perfeccionados por el American Institute of Records Administration (Remington Rand, Division of Sperry Rand Corporation) los cuales se hallan en práctica mundialmente.

Business Law

ACUÑA MONTENEGRO—Derecho Práctico Comercial
Por JOSÉ R. ACUÑA MONTENEGRO.
220 *págs.*, 6 *x* 9 (1959).....$3.75*bc*
Este libro comprende la explicación de varios temas del derecho y legislación comercial hispanoamericanos. Se han seleccionado únicamente los que presentan casos prácticos y frecuentes. Es una obra importante para el hombre de negocios que tiene que resolver con un criterio jurídico los múltiples problemas que se le presentan constantemente. El estudiante de las escuelas de comercio encontrará en él los conocimientos básicos que lo capacitarán para de-

fender con mayor fundamento y responsabilidad los importantes intereses que se le confiarán. El libro consiste de siete partes, a saber Preliminares; Letra de Cambio o Cambial; El Cheque y el Pagaré; Obligaciones con Garantía Real; Sociedades y Asociaciones; Otras Contrataciones; Exportación e Importación.

Business Mathematics

LISTA BLANCO Y ROSENBERG—Matemáticas Mercantiles
Por JESÚS LISTA BLANCO, Habana, CUBA y R. ROBERT ROSENBERG, Consejo de Educación, Jersey City, New Jersey. Segunda Edición.
304 *págs.*, 13.9 *x* 21.6 *cm.* (1962)...$3.25*bc*
La reciente revisión del popular texto para cursos de matematicas comerciales. El material superfluo y complicado ha sido eliminado. Los capítulos referentes al cambio de monedas, facturación y prorrateo de gastos han sido cuidadosamente modernizados. Se ha conservado su abundante material de práctica y ejercicios, así como su distintiva presentación simplificada de sistemas y topicos usados universalmente.

Typewriting

GORBEA—Técnicas Mecanográficas Modernas
Una Presentación Simplificada
POR JOSEFINA Q. de GORBEA, SARA MERCEDES GONZÁLEZ, ALICE MABEL GONZÁLEZ, ANTONIO DE LA LUZ, SOLEDAD DOMÍNGUEZ de PÉREZ y DELIA MARÍA SÁNCHEZ, Universidad de Puerto Rico.
200 *págs.*, 19.9 *x* 27.6 *cm.* (1957)...$4.50*bc*
Esta obra sigue los más avanzados principios psicológicos y pedagógicos que envuelven la buena práctica en la escritura a máquina. El material está presentado gradualmente, de lo sencillo a lo complejo. Sus seis unidades comprenden desde el aprendizaje del teclado hasta la carta comercial y problemas mecanográficos para mejorar la rapidez y la exactitud. Escrito especialmente para cursos de mecanografía elemental e intermedia; también se recomienda para uso personal, para oficinistas, y como texto de consulta.

SORELLE—Mecanografía, Método Racional
Por RUPERT P. SORELLE. Segunda Edicion.
92 *pp.*, 8 *x* 10¾, *illus.* (1963).....$2.95*bc*
Un curso básico de mecanografía para nivel elemental. Las diez primeras lecciones enseñan al estudiante a dominar el teclado en corto tiempo y de una manera racional simple y lógica. Ofrece una sección especial de ejercicios diseñados para desarrollar en forma sólida y progresiva la velocidad y la exactitud mecanográfica. Contiene una sección de correspondencia comercial que comprende una selección de cartas que proporcionan expertas prácticas mecanográficas. Este texto, profusamente ilustrado, es ideal para el principiante así como para quien desea aprender mecanografía para uso personal, en un corto curso y sin instructor.

Shorthand

GREGG—Cuentos y Cartas
Por JOHN ROBERT GREGG.
48 *págs.*, 12.7 *x* 15.9 *cm.* (1925)....$1.20*bc*
Libro de lectura taquigráfica que puede usar el maestro en la clase ya sea para dictar o para leer. De gran utilidad para el alumno adelantado.

GREGG—Diccionario de la Taquigrafía Gregg
Por JOHN ROBERT GREGG. Segunda Edición.
183 *págs.*, 12.7 *x* 17 *cm.* (1946).....$3.00*bc*
Contiene más de 11,000 trazos taquigráficos junto con las palabras en escritura corriente. Indispensable para todo maestro y alumno del sistema.

GREGG—Ejercicios Progresivos de la Taquigrafía Gregg
Por JOHN ROBERT GREGG.
68 *págs.*, 12.7 *x* 19 *cm.* (1923).....$1.75*bc*
Cuaderno para usarse conjuntamente con el texto. Es el medio más seguro que tiene el maestro para cerciorarse del adelanto de sus alumnos.

GREGG—Estudios Taquigráficos de Rapidez
POR JOHN RORERT GREGG.
159 *págs.*, 12.7 *x* 17 *cm.* (1932)....$2.90*bc*
Texto taquigráfico que puede usar tanto el principiante como el alumno adelantado. También puede usarse conjuntamente con el manual o como libro suplementario. Contiene un repaso completo del texto su y objetivo principal es aumentar la rapidez del alumno.

GREGG—Libro de Frases Taquigráficas Gregg
Por JOHN ROBERT GREGG.
63 *págs.*, 12.7 *x* 17 *cm.* (1928).....$1.75*bc*
Contiene unas 2,000 frases taquigráficas usadas diariamente en la escritura corriente. Todo estudiante adelantado, taquígrafo y maestro debe tener un ejemplar de referencia.

GREGG—Taquigrafía Gregg
Por JOHN ROBERT GREGG.
128 *págs.*, 15.2 *x* 11.4 *cm.* (1923)...$3.00*bc*
Texto del Sistema Gregg en el cual se encuentra la teoría completa del mismo, presentada en 16 lecciones sencillas y fáciles de aprender. Contiene 21 páginas de material comercial y literario para lectura y escritura.

HERRERA y JOHNSON—Estudios Graduados
Por ANGELA HERRERA y
HARRIET M. JOHNSON.
166 *págs.*, 12 *x* 16.5 *cm.* (1929)....$3.00*bc*
Libro de escritura taquigráfica que se ha escrito con la idea de ayudar al alumno y al taquígrafo en la lectura de sus notas. Puede usarse con o sin el manual.

LUGO—Auxiliar de la Taquigrafía Gregg
Por FELIX ARCE LUGO.
127 *págs.*, 12 *x* 17 *cm.* (1927).....$2.75*bc*
Libro en escritura corriente, para uso del maestro y del alumno avanzado. Facilita al primero su labor en las clases, puesto que contiene abundante y variado material para dictar; ayuda al alumno en la adquisición de nuevas palabras y frases.

Gregg Shorthand Simplified

GREGG, TORREBLANCA y HAELSIG—Diccionario de la Taquigrafía Gregg Simplificada
Por JOHN ROBERT GREGG, ILDEFONSO TORREBLANCA, Gregg Shorthand Academy, México, D. F. y OTTO H. HAELSIG, Academia "La Salle," México, D. F.
186 *págs.*, 13.9 *x* 20.2 *cm.* (1953)....$3.20*bc*
Dividido en tres partes, la primera contiene los signos taquigráficos de unas 12,250 palabras

comunes; la segunda es una lista alfabética de 726 nombres propios, con sus correspondientes signos taquigráficos; la tercera comprende modelos de las tres conjugaciones de verbos regulares y la conjugación (completa o parcial) de cada tipo de verbo irregular que puede ofrecer el menor problema en la taquigrafía.

GREGG, TORREBLANCA y HAELSIG—Auxiliar de la Taquigrafia Gregg Simplificada Con Clave

Por JOHN ROBERT GREGG, ILDEFONSO TORREBLANCA y OTTO H. HAELSIG, Academia "La Salle," México, D. F.

224 *págs.*, 14 *x* 20.5 *cm.* (1957)....$3.20*bc*

Este libro complementa el texto básico con abundancia de escritos y listas de palabras para la preparación de exámenes graduados de transcripcion o dictado.

GREGG, TORREBLANCA y HAELSIG—Estudios de Rapidez en Taquigrafía Gregg Simplificada

Por JOHN ROBERT GREGG, ILDEFONSO TORREBLANCA y OTTO H. HAELSIG, Academia "La Salle," México, D. F.

245 *págs.* (1954).....$3.75*bc*

Cuando el alumno ha terminado el texto de la Taquigrafía Gregg Simplificada debe pasar a este libro que se ha escrito para proporcionarle un medio de afianzar su conocimiento del sistema Gregg, de ir aumentando la rapidez con que escribe taquigrafía y de adquirir y desarrollar la habilidad de transcribir sus notas taquigráficas.

GREGG, TORREBLANCA y HAELSIG—Taquigrafía Gregg Simplificada

Por JOHN ROBERT GREGG, ILDEFONSO TORREBLANCA y OTTO H. HAELSIG, Academia "La Salle," México, D. F.

252 *págs.*, 13.9 *x* 20.0 *cm.* (1953)....$3.90*bc*

Este texto es la versión español de la edición en inglés. Comprende sesenta lecciones cortas de las cuales las 48 primeras explican la teoría del sistema: conserva un máximo de uniformidad en la aplicación de reglas y principios; reduce las formas especiales para representar comienzos y finales de palabras, asi como el número de gramálogos y abreviaturas; suprime las frases taquigráficas largas, raras y rebuscadas.

Personnel Management

HANDBOOK OF PERSONNEL MANAGEMENT AND LABOR RELATIONS

By DALE YODER, Stanford University and H. G. HENEMAN, JR., JOHN TURNBULL, University of Minnesota, and C. HAROLD STONE, Central Romana Corp., Dominican Republic.

1216 *pp.*, 5⅜ *x* 8 (1958).....$17.50*hb*

Gives authoritative information on the best practices in the fields of personnel management and labor relations, covering every major function and activity in the manpower management field. The authors have designed the handbook to meet the needs of all those who carry responsibility for leading and managing people—executives as well as line managers and supervisors. It should be particularly helpful to industrial relations directors, personnel managers, labor relations directors, training directors, wage and salary administrators, and others with more specialized responsibilities. The emphasis throughout is on tested practice. The handbook is unique in that it is not the product of a large number of contributing authors, but rather the work of four authors operating as a team. As a result it has a uniform style of writing throughout with much documented and referenced source material—carefully digested selections, outlines, brief excerpts from articles, books, forms, memoranda, and other similar documents.

CONTENTS—Industrial Relations and Manpower Management. Employee Relations Jobs. Labor and Employment Relations Policy. Management—Union or Labor Relations. Determining Manpower Requirements. Manpower in Organization and Reorganization. Recruitment. Selection, Placement, and Induction. Promotion. Transfer, Separation. Executive or Management Development. Supervision, Training. Communications in Employment. Employee Morale. Personnel Ratings. Wage and Salary Administration. Financial Services for Employees. Hours and Working Conditions. Employment Stabilization. Health and Safety. Employee Services. Records and Reports. Statistics in Industrial Relations. Employment Relations Audits. Industrial Relations Research.

Principles

FLIPPO—Principles of Personnel Management

By EDWIN B. FLIPPO, Los Angeles State College. *McGraw-Hill Series in Management.*

620 *pp.*, 6 *x* 9, 75 *illus.* (1961).....$8.50*c*

A sound introduction to the fundamentals of personnel management. It does not attempt to cover every aspect of this complex subject. Instead, it gives the reader a comprehensive, organized introduction to the field by outlining the major personnel functions and emphasizing basic principles. An introductory section describes the status of the field—past, present, and future. Then the personnel management functions—planning, organizing, directing, controlling; and the operative functions of personnel—procurement, development, compensation, integration, and maintenance are discussed. The approach is basically managerial; example cases are analyzed.

CONTENTS—Preface. PART I. INTRODUCTION. The Personnel Field—Present and Future. The Personnel Field—Past. PART II. PERSONNEL MANAGEMENT FUNCTIONS. Planning the Personnel Program. Organizing the Personnel Function. Direction. Personnel Control. PART III. PERSONNEL OPERATIVE FUNCTIONS. FUNCTION A—*Procurement.* Determination of Manpower Requirements. Executive Manpower Planning. Recruitment. The Hiring Process. Tests and Interviews. FUNCTION B—*Development.* Training Operative Personnel. Executive Development. Advancement. Performance Appraisal. FUNCTION C—*Compensation.* Wage and Salary Administration. Job Evaluation. Monetary Incentives. Additional Compensation Programs. FUNCTION D—*Integration.* The Psychological and Sociological Framework of Human Relations. The Nature and Development of Organization Morale. Grievances and Disciplinary Action. Communication. Special Concepts in Human Relations. The Status of the Labor Union. Collective Bargaining. FUNCTION E—*Maintenance.* Safety and Health. Employee Service Programs. Personnel Research.

PIGORS AND MYERS—Personnel Administration

A Point of View and a Method

By PAUL PIGORS and CHARLES A. MYERS, Massachusetts Institute of Technology. Fourth Edition.

749 *pp.*, 6 *x* 9, 13 *illus.* (1961).....$8.50*c*

Addressing itself to the important question: WHY is the personnel function of management important, and how can it be implemented? this edition places especial emphasis on the line management's responsibilities for developing and managing human resources. Part I covers the range of recognized personnel activities, stressing philosophy and approach rather than details. Part II emphasizes the value of case study in management development. About 200 pages of cases are included to illustrate the wide range of interrelated personnel problems.

CONTENTS—Management and Personnel Administration. The Individual and the Organization. Diagnosing Organizational Health. Developing and Utilizing Human Resources. Remunerating Human Resources. Employee Benefits and Services; Safety and Health. Conclusions. CASE ILLUSTRATIONS. Selected References. Name Index. Subject Index.

SCOTT, CLOTHIER, AND SPRIEGEL—Personnel Management

By WALTER DILL SCOTT, ROBERT C. CLOTHIER, Rutgers University, and WILLIAM R. SPRIEGEL, University of Texas. Sixth Edition.

623 *pp.*, 6 *x* 9, 86 *illus.* (1961).....$7.95*c*

Correlated Text-Film Series—five motion pictures $385.00

Five follow-up filmstrips.....each $5.00

Maintains a balance between theory and current practice, and describes personnel management policies and practices designed to promote the common interest of the consumer, employer, and employee. This edition reproduces a comprehensive survey of personnel practices in which eight hundred fifty-two companies responded to a five-page questionnaire. A new chapter on "Human Relation" has been added, and the sequence of chapters has been rearranged to conform with current personnel procedure.

CONTENTS—Preface. Text-films. THE EVOLUTION OF THE PERSONNEL FUNCTION. Various Concepts of Labor. The Organization and Functions of the Personnel Division (or Department). Personnel Management as a Coordinating Function. Personnel Policies. PERSONNEL PROCEDURES, TOOLS, AND RECORDS (Maintaining the Work Force). Developing Sources of Labor Supply. The Employment Procedure. The Interview as a Tool of Personnel Management. The Application Blank and the Qualification Card. The Job Description. Job Evaluation. Merit Rating. Promotion, Demotion, Transfer, and Discharge. THE HUMAN RELATIONS AND PSYCHOLOGICAL APPROACH. Human Relations. Psychological Tests: Mental Ability and Clerical Aptitude and Ability. Psychological Tests: Mechanical Aptitude, Vocational Interests, and Personality. Measuring Morale. COMMUNICATION, EMPLOYEE ORIENTATION AND TRAINING, AND EXECUTIVE DEVELOPMENT. Communicating with Employees and the Public. Introducing the Employee to His Job. Training Employees. Training Executives and Supervisors. THE LABOR MOVEMENT. Employee Representation and Collective Bargaining. The Labor Movement. WAGE AND SALARY ADMINISTRATION, EMPLOYEE REMUNERATION, AND OTHER INCENTIVES. Influences Other than the Monetary Wage. Stabilization of Wages or Employment. Wage and Salary Administration. Financial Aids to Employees. Wage-payment Plans. Profit Sharing and Employee Stock Ownership. OTHER OPERATIONAL PROBLEMS IN PERSONNEL ADMINISTRATION AND MANAGEMENT. Safety, Health, and Recreation. Working Conditions and Labor Turnover. Workers Requiring Special Consideration. EMPLOYEE REPRESENTATION AND SOCIAL CONTROLS. The Labor-Management Relations Act and State Labor-relations Acts. The Fair Labor Standards Act of 1938 as Amended (the Wages and Hours Act). Social Security and Pension Plans. MEASURING PERFORMANCE. The Personnel Audit. APPENDIXES. A. The Trend of Personnel Management as Measured in 1930, 1940, 1947, 1953, and 1957. B. An Apprentice Agreement. C. Bibliography. Index.

WATKINS, DODD, McNAUGHTON, AND PRASOW—The Management of Personnel and Labor Relations

By GORDON S. WATKINS, University of California, Berkeley, PAUL A. DODD and WAYNE McNAUGHTON, University of California, Los Angeles, and PAUL PRASOW, University of Southern California. Second Edition.

974 *pp.*, 6 *x* 9, 105 *illus.* (1950).....$7.95*c*

Surveys the multiple facets of personnel management, including the principal problems and the techniques of their solutions.

CONTENTS—PART I. The Historical Background of Labor Relations. The Problem of Human Administration. The Nature and Functions of Management. The Fundamental Principles of Personnel Management. The Personnel Department. The Personnel Manager. His Staff and His Profession. PART II. Psychological Aspects of Personnel Management. Human Factors in Industry. PART III. The Technique of Selection and Placement. Job Analysis and Description. Recruitment of Personnel. Selecting the Worker. Tests as Aids in Selection and Placement. PART IV. The Maintenance of Personnel. Labor Turnover. Absenteeism and Tardiness. The Stimulation of Interest. Transfer and Promotion. Discipline, Discharge, Demotion, and Layoff. Wage Administration. Wage-payment Plans. The Education and Training of Employees. The Training of Executives. The Employee Magazine. Safeguarding the Worker's Health. Industrial Accidents and Their Prevention. Hours of Labor in Relation to Health and Output. The Physical Environment of Work. The Stabilization of Employment. Groups Requiring Special Personnel Consideration. Personnel Services. PART V. Joint Relations and Collective Bargaining. Origin and Nature of Employee Representation. Employee-representation Plans in Operation. The Law. Collective Bargaining, and Representation. PART VI. Conclusion. Personnel Management in a Changing Economy. Selected Reference List. Index.

PIGORS, MYERS, AND MALM—Readings in Personnel Administration

Edited by PAUL PIGORS, Massachusetts Institute of Technology; CHARLES S. MYERS, Massachusetts Institute of Technology; and F. T. MALM, University of California, Berkeley. Second Edition.

554 *pp.*, 6 *x* 9 (1959)..Cloth Edition $6.50*c*
Soft-cover Edition $4.95*c*

Containing 20 new selections, the second edition of this successful text maintains the purpose of the previous edition: to provide a selection of the best writings by practitioners in personnel administration and by social scientists to supplement basic textbooks in personnel administration or management training, particularly Pigors and Myers *Personnel Administration.*

CONTENTS—Preface. THE NATURE AND SCOPE OF PERSONNEL ADMINISTRATION. Introduction. What Is Personnel Administration? The Staff Function of Personnel Administration. Developing Personnel Policies and Procedures. WORK RELATIONSHIPS AND ORGANIZATIONAL STRUCTURE. Introduction. MANAGEMENT DEVELOPMENT. Introduction. Managerial Responsibilities. Role of the Foreman. Management Training. BUILDING AND MAINTAINING WORK TEAMS. Introduction. Recruitment and Selection. Induction and Training. Appraisal on the Job. Constructive Discipline. WAGES AND WORK ASSIGNMENTS. Introduction. Wage Policies and Wage Administration. Methods of Wage Payment. Work Assignments and Technological Change. EMPLOYEE SERVICES AND PROGRAMS. Introduction. Health and Safety. Employee Services and Benefits. Employee Interest in Production Problems.

SPRIEGEL AND TOWLE—Retail Personnel Management

By WILLIAM R. SPRIEGEL, University of Texas, and JOSEPH W. TOWLE, Washington University.

360 *pp.*, 6 *x* 9, 60 *illus.* (1951).....$7.50*c*

A complete survey of personnel administration in the department store and retail field. Its purpose is to describe the principles and procedures of personnel management now in use or recommended for successful retail establishments. Problems of selecting, training, compensating, and motivating employees are considered. A summary of development of labor unions is included.

CONTENTS—Preface. Concepts of Employee-Employer Relations. The Organization of Personnel Relations in Retail Stores. Personnel Policies. Maintaining Sources of Labor Supply. The Employment Procedure. The Interview as a Tool in Retail Management. The Application Blank and Qualification Card. Job Evaluation in Retail Stores. Merit Rating. Transfer. Promotion and Discharge. Psychological Testing. Training Retail Workers. Supervisory and Executive Training. Wages and Salary Administration. Financial Aids for Employees. Employee Services. Communicating with Employees. Measuring Employee Morale. Pension Plans and Social Security. The Trade Union Movement in Retail Stores. Union-Management Relations in Retail Stores. Labor Legislation Affecting Retailing. The Personnel Department as a Coordinating Agency. Appendix A: Department Store Personnel Relations Survey: Statistical Summary. Appendix B: Department Store Personnel Relations Questionnaire. Bibliography.

TAYLOR—Personnel Administration

Evaluation and Executive Control

By JAMES H. TAYLOR, Industrial Relations Counselors, Inc., University of Michigan.

305 *pp.*, 6 *x* 9 (1959).....$7.50*i*

Managers and personnel men will find in this book the key to more successful personnel administration for any size or type of organization. It not only explains how to establish and maintain the most effective kind of personnel program, but shows how to evaluate major plans and the effectiveness of the personnel staff in carrying them out. Shows how to attract the right kind of talent for the continuing growth of a firm; modern methods of wage and salary administration; how to set up or amend personnel plans and policies; how to establish profitable relationships between supervisors and employees and between the company and local or national union; and much more.

CONTENTS—Management Succession—Determination of Needs. Management Succession—Development of Recruiting Sources. Management Succession—Orientation, Training, and Development. Management Succession—Appraisal of Present Performance and Estimate of Potential. Compensation of Nonexempt Personnel. Compensation of Supervisory Personnel. Compensation of Executive Personnel. Personnel Plans and Policies—General. Personnel Plans and Policies—Getting Your Value. Health and Safety Services. Manager-Employee Relationships. Company-Union Relationships. A Written Statement of Your Personnel Philosophy. The Personnel Man and His Job. Looking Ahead.

Job Evaluation

FEAR—The Evaluation Interview

Predicting Job Performance in Business and Industry

By RICHARD A. FEAR, The Psychological Corporation, New York.

288 *pp.*, 5⅜ *x* 8 (1958).....$7.00*i*

Shows how to use the interview to evaluate applicants for higher-level jobs. Step-by-step procedures are given for obtaining essential information and interpreting it correctly. Also discussed are the patterned interview as a part of employee selection; needed basics of human behavior; writing a report of applicant's qualifications; and other selection techniques such as aptitude tests. An Interview Guide provides suggestions for discussing with the applicant his work experience, education, and other factors. The book supplies many illustrations of specific kinds of interview questions.

CONTENTS—Introduction. Nature of the Evaluation Interview and Its Place in the Selection Program. How to Become a Good Interviewer. Getting Spontaneous Information. Follow-up Questions. Guiding and Controlling the Interview. General Factors of Interpretation. Interpreting Work History. Interpreting Education. Interpreting Early Home Background. Interpreting Present Social Adjustment. Concluding the Interview. Completing the Interview Guide. Illustrative Case Studies. Index.

LANHAM—Job Evaluation

By E. LANHAM, University of Texas.

404 *pp.*, 6 *x* 9, 98 *illus.* (1955).....$7.50*c*

Explains the steps which must be performed in installing and maintaining a program of job evaluation, how these steps should be carried out, and who should be responsible for their execution. This is done through a discussion of underlying management principles and philosophies, practices and procedures currently used in business, industrial, and government organizations, and recommendations concerning desirable practice.

CONTENTS—Introduction. Organization. The Role of Organized Labor in Job Evaluation. Selection of the Rating Plan. The Ranking and Grading or Classification Methods. The Point Method. The Factor-comparison Method. Job Analysis. Job Descriptions. Job Rating. Rating Verification and Equalization. Job Classes. Employee Classification. The Wage Survey. The Rate Structure. Policies of Administration. Control of the Job Evaluation Program. Job Evaluation Applied to Managerial Positions. Some General Aspects of the Subject. Bibliography.

Human Relations and Labor Relations

PIGORS AND PIGORS—Case Method in Human Relations

The Incident Process

By PAUL PIGORS, Massachusetts Institute of Technology, and FAITH PIGORS. *Series in Mgmt.*

413 *pp.*, 6 *x* 9, 9 *illus.* (1961).....$8.95*c*

This book sets forth the authors' approach to the case method of instruction and features the Incident Process; the student, is given a series of facts; studies them, asks questions, and thereby acquires sufficient information to reach a decision concerning the incident.

CONTENTS—Preface. Cases in Social Relations: What Are They and Why Study Them? Features of Case Method. Typical Factors in Social Situations. "Getting Around," by Analyzing Cases. General Semantics in Case Analysis. The Incident Process of Case Analysis. During a Series of Case Discussions. What Skills Are Practiced? Treating Difficulties as Case Material. How Does One Get Experience? What Is Distinctive about "Social" Experience? Case 6—Inside a Study Group. Case 7—The "Outside" Inspectors. Case 8—The "Mission." Case 9—A Critic Criticized. Case 10—"Cut Off?" Case 11—The Proxy Case. APPENDIXES. INDEX.

SALTONSTALL—Human Relations in Administration

Text and Cases

By ROBERT SALTONSTALL, IMEDE, Lausanne, Switzerland. *Series in Mgmt.*

744 *pp.*, 6 *x* 9, 60 *illus.* (1959).....$9.50*c*

This combination text and casebook will enable business executives and students to broaden their understanding of the many factors which influence human behavior in each unique organization of people. Attention is focused on the kinds of responsible leadership which cultivate teamwork among individuals and groups, and result in maximum productivity, as well as basic satisfactions and growth

for the people involved. The author takes a broad look at the trends which have been developing in human relations researches and evaluates the extent to which they may be applied in a practical way by business executives. The text includes both European and American cases taken directly out of real business situations.

CONTENTS—Preface. BACKGROUND AND PERSPECTIVE. Human Relations in Perspective. Environment for Practice of Human Relations. Human Relations Research. ORGANIZATION FRAMEWORK FOR EFFECTIVE HUMAN RELATIONS. The Human Organization. Line and Staff Relationships. Function of Personnel Administration. DEVELOPING THE URGE TO PRODUCE. Factors Influencing the Urge to Produce. Significance of the Job. The Foreman—Key to Productivity and Morale. The Third Dimension—Union-management Cooperation. UNDERSTANDING HUMAN PROBLEMS AND BEHAVIOR AT WORK. Understanding Human Relationships: A Framework for Objective Analysis. Change—Its Effect on People. Informal Organization and Work Groups. How Communications Build Understanding. DEVELOPMENT OF PROFESSIONAL LEADERSHIP. Authority and Leadership. Democratic Leadership—Participation. Developing Professional Managers. The Untapped Potentials of People. CASES. Index.

DAVIS—Human Relations at Work

By KEITH DAVIS, Arizona State University. *Series in Mgmt.* Second Edition.

656 *pp.*, 6 *x* 9, 87 *illus.* (1962).....$7.95*c*

Discussing all types of organizations including business, government, public schools, and nonprofit organizations, this comprehensive text describes people at work and tells how they may be motivated to work together in greater harmony. It integrates all social sciences appropriate to this subject, especially psychology, sociology, and management. Well organized and highly readable, it emphasizes practice, yet furnishes a sound background in theory and fundamental ideas. Focus is upon the manager and his operating relationships with people in the organization. New chapters include: "Mainsprings of Motivation," "Social Systems," and "Automation." Case problems are included in the last section. Charts and drawings have been taken directly from actual work situations.

CONTENTS—Human Relations Fundamentals. Leadership and Its Development. Organizational Environment. Social Environment. Communication and Group Processes. Operating Activities. Role of Human Relations. Case Problems.

DAVIS AND SCOTT—Readings in Human Relations, 2nd Ed.

Edited by KEITH DAVIS, Arizona State Univ. and WILLIAM G. SCOTT, DePaul Univ. *Series in Mgmt.*

In Press

Provides a balanced interpretation of modern developments in human relations and organizational behavior using an integrated social science approach. Ideas are drawn from numerous disciplines. Both European and American authors and journals are included. Basic philosophy and key ideas are emphasized. Includes the latest research findings in the behavioral sciences, automation, relations with professional and scientific personnel, intercultural communication, and organization theory. Contributors include: Edward C. Bursk, William F. Whyte, Douglas M. McGregor, Chris Argyris, John Dos Passos, Upton Sinclair, Niccolo Machiavelli, Rensis Likert, Paul Tillich, Leonard Sayles, George Strauss, Cameron Hawley.

CONTENTS—Philosophy of Human Relations. Behavioral Science and Management. Motivation and Morale. Employee Incentives. Organizations. Organizational Integration and Change. Communication. Leadership. Supervision and Control. Labor Relations. Human Relations Training and Development. Automation. Trends in Human Relations.

GRIMSHAW AND HENNESSEY—Organizational Behavior

Cases and Readings

By AUSTIN GRIMSHAW, University of Washington and JOHN W. HENNESSEY, Dartmouth College. *Series in Mgmt.*

505 *pp.*, 6 *x* 9, 44 *illus.* (1960).....$8.50*c*

An unusually well-balanced collection, this text departs in one major respect from the majority of texts in the field; the structure of the book is planned and preconceived. The cases are chronologically presented by level in the hierarchy of the organization. They are concerned with decision-making problems in business, emphasizing the human behavioral factors. The readings are similarly sub-divided. All the material is up to date and has been chosen from a variety of sources especially to show effective combinations of theory and practice.

CONTENTS—AT THE RANK AND FILE EMPLOYEE LEVEL. ENTRY ONTO THE LADDER OF COMMAND. AT THE LOWER EXECUTIVE LEVEL. AT THE HIGHER EXECUTIVE LEVEL. THE HIGHEST RUNG ON THE LADDER: TOP MANAGEMENT. READINGS. FOUR ADMINISTRATIVE PROCESSES: LEADERSHIP, COMMUNICATION, ORGANIZATION, EXECUTIVE DEVELOPMENT.

McGREGOR—The Human Side of Enterprise

By DOUGLAS MCGREGOR, Massachusetts Institute of Technology.

246 *pp.*, 5⅜ *x* 8, 3 *illus.* (1960).....$5.50*t*

This text deals with policies and practices in the management of human resources in business and industrial organization, examining them in the light of current social science knowledge about human nature and behavior. Two important suppositions form the basis of this material: *Theory X*—The assumptions upon which traditional organizations are based and which appear inadequate for the full utilization of human potentialities. *Theory Y*—The assumptions consistent with current research knowledge which could lead to higher motivation and greater realization of both individual and organizational goals.

CONTENTS—THE THEORETICAL ASSUMPTIONS OF MANAGEMENT. Management and Scientific Knowledge. Methods of Influence and Control. Theory X: The Traditional View of Direction and Control. Theory Y: The Integration of Individual and Organizational Goals. THEORY IN PRACTICE. Management by Integration and Self-Control. A Critique of Performance Appraisal. Administering Salaries and Promotions. The Scanlon Plan. Participation in Perspective. The Managerial Climate. Staff-Line Relationships. Improving Staff-Line Collaboration. THE DEVELOPMENT OF MANAGERIAL TALENT. An Analysis of Leadership. Management Development Programs. Acquiring Managerial Skills in the Classroom. The Managerial Team.

PARKER AND KLEEMEIER—Human Relations in Supervision

Leadership in Management

By WILLARD E. PARKER, Personnel Management Consultants, Chicago, and ROBERT W. KLEEMEIER, Washington University.

375 *pp.*, 6 *x* 9, *illus.* (1951).....$5.50*c*

Designed to show the first line supervisor how to deal with the problems in human relations. Sound management principles and tested practices are presented in a fast-paced, readable way. Modern psychological theory is applied to problems of training, motivation, and discipline. The supervisor's role as a morale builder is presented. Best practices in hiring, inducting, evaluating, and counseling the worker are given. For classroom use, questions are appended at the end of each chapter.

CONTENTS—Management Discovers Men. Improving Two-way Communications. The Supervisor Knows His Men. The Supervisor Looks Behind the Scenes—Attitudes. Dynamics of Behavior—Motivation and Frustration. Selecting the Best Man for the Job. Inducting the Worker. The Supervisor Trains the Worker. Tools for the Supervisor's Kit. The Supervisor Rates the Worker. The Supervisor Looks at the Job and the Man—Safety, Fatigue, Job Evaluation. The Supervisor as a Trouble Shooter—Grievances. What to Do about the Human Side—Counseling. Your Own Personal Development. Earning Leadership Status. Appendix—Case Studies. Human Relations Training Skit. Index.

TANNENBAUM—Leadership and Organization
A Behavioral Science Approach
By ROBERT TANNENBAUM, University of California, IRVING R. WESCHLER, deceased, and FRED MASSARIK, University of California, Los Angeles. *Series in Mgmt.*
456 *pp.*, 6 *x* 9, 16 *illus.* (1961).....$7.95*c*
This collection of writings from the members of the Human Relations Research Group points up the key issues of human relations in formal organizations, giving a significant model of the leadership process, and its implications in terms of personal influence. The book includes the rediscovery of the "empathy"-concept, and its development in the notions of social sensitivity and behavioral flexibility.
CONTENTS—Leadership and the Influence Process. Some Basic Issues in Human Relations. Leadership: A Frame of Reference. Cultural Perspectives on Understanding People. The Process of Understanding People. How to Choose a Leadership Pattern. The Introduction of Change in Organizations. Participation by Subordinates. The Management of Differences. Sensitivity Training: A Personal Approach to the Development of Leaders. Looking at Ourselves: A New Focus in Management Training. A Sensitivity Training Group in Action. Sensitivity Training for the Management Team. Observations on the Trainer Role: A Case Study. Phases of Group Development. Assessing the Training Impact. A Look at Formal Organization: The Manager Concept. A Look at Formal Organization: Managerial Decision Making. Organization in Action: Bureaucracy in a Government Laboratory. Developing Objectives and Evaluation Procedures in Research Organizations. The Impact of Altered Objectives: Factionalism and Organizational Change in a Research Laboratory. Problems of Evaluation: The Impact of Interpersonal Relations on Ratings of Performance. Assessing Organizational Effectiveness: Job Satisfaction, Productivity, and Morale. Assessing Organizational Effectiveness: The Multi-Relational Sociometric Survey. Relations with the Host: Social Research Faces Industry. Relations with the Subject: Problems in the Use of Indirect Methods of Attitude Measurement. Commentaries. Bibliographies.

Leadership and Administration

BENDER—The Technique of Executive Leadership
By JAMES F. BENDER, Adelphi College, Garden City, L. I., N.Y.
272 *pp.*, 5½ *x* 8 (1950).....$4.95*t*
Points up the ten most important factors for developing and maintaining leadership in the modern business world. The important emphasis is on specific information, facts, and things to do. There are a number of tests and quizzes that will help the would-be leader as he goes along. An extremely helpful book for young executives on the way up, as well as for those at the top already doing executive, administrative, and training work.
CONTENTS—Acknowledgments. Analyze Yourself. Streamline Your Mind. Be a Pleasant Boss. Grow as a Speaker. Improve Your Reading Habits. Master the Interview. Conduct Excellent Conferences. Be a Good Psychologist. Get the Most Out of Your Physique. Stay Tuned to Modern Leadership. Answers and Scores to Quizzes. Index.

MASON—How to Be a More Creative Executive
By JOSEPH G. MASON.
281 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960)....$6.50*t*
Shows how to recognize and develop creative potential in both oneself and in others; how to sell ideas and keep them sold; how to develop methods for leading creative groups to increase their productivity; and how to develop a "creative climate" that will encourage the application of imagination and creativity to everyday business problems. Presents tested methods and procedures that have proved successful in helping others maintain a high degree of creativity in themselves and their subordinates.
CONTENTS—Why Be Creative? What Is Creative? Characteristics of Creative People. Blocks to Creativeness. The Nature of Creative Thought. The Nature of Problems. Steps in Deliberate Problem Solving. Help Yourself to More Ideas. When to Use Creative Groups. Creative Group Techniques. How to Lead Creative Groups. The Importance of Follow-up Creating the Creative Climate. How to Spot Creative Potential in Others. The Creative Executive in Action.

SCHELL—Technique of Administration
Administrative Proficiency in Business
By ERWIN HASKELL SCHELL, Massachusetts Institute of Technology. Second Edition.
363 *pp.*, 5 *x* 7⅜, *illus.* (1951).....$6.50*t*
Covers top-managerial responsibilities in industry. Changes in the second edition have been entirely in the area of additions and include more than two hundred anecdotes, interspersed with the text, as well as nearly one thousand discussion questions accompanying these anecdotes. The book should prove useful as a text for graduate students of business administration in colleges and universities as well as for executive training courses in industry.
CONTENTS—Introduction. PART I. OUTSET. Appointment. Attitude. PART II. SITUATION. Circumstance. Background. Difficulty. Opportunity. PART III. PROCESS AND RESOURCE. Information. Collaboration. Solution. Verification. Sanction. Action. Exception. Review. PART IV. WORK AND CONDUCT. Representation. Negotiation. Mediation. Deliberation. Association. PART V. AGREEMENT AND OBLIGATION. Subordinates. Investors. Vendors and Customers. Associates. Community. Public. PART VI. CONTINUITY AND TENURE. Accumulation. Renewal. Safeguard. Orientation. Dedication. PART VII. PROGRESSION. Admonition. Acclimation. Index.

TAYLOR—How to Select and Develop Leaders
By JACK W. TAYLOR.
262 *pp.*, 5⅜ *x* 8, 31 *illus.* (1962)....$6.75*t*
Written for operating managers, this comprehensive book offers practical guidance and helpful procedures useful in the selection and development of managerial personnel. In specific, but highly readable terms, it shows the reader how to recognize leadership aptitudes, how to prepare a scientific (but realistic) selection and development program, how to set objectives, what typical results may be expected, and much more. All of the material presented is applicable not only to first-line leadership but to other levels of management.

URIS—Developing Your Executive Skills
By AUREN URIS, Research Institute of America.
288 *pp.*, 5⅜ *x* 8 (1955).....$4.50*t*
A new kind of book for executives, based on the idea of sharpening and improving your executive skills in order to develop that "slight edge" which will make you just a bit better than the next fellow. There are chapters on decision-making, long-range planning, executive

problem-solving, communication, interviewing, sharpening mental focus, etc.
CONTENTS—Your Starting Point. Your Executive Approach. Your Administrative Skills. Desk Discipline. Working with People. Raising Your Over-all Efficiency. Sharpening the Slight Edge.

URIS—The Efficient Executive
By AUREN URIS.
320 *pp.*, 5⅜ *x* 8 (1957).....$4.95*t*
A handbook for the executive which shows first how to increase his effectiveness and value to his company in all aspects of his job. Mr. Uris, as a member of the staff of the Research Institute of America, had access to latest findings in executive-management techniques. He charts practical methods for improving efficiency in such vital areas as human relations, communications, delegating, paper work, interviews, planning, developing ideas, working under pressure, and getting the most out of subordinates. Here are the newest and most up-to-date guides to efficiency and success in the business world. Mr. Uris is the author of *Developing Your Executive Skills* and *How to Be a Successful Leader.*

URIS—How to Be a Successful Leader
By AUREN URIS, Research Institute of America.
239 *pp.*, 5½ *x* 8 (1953).....$4.95*t*
A systematic, practical method for appraising and mastering the problems of leadership. Shows how to understand and handle groups, increase group effectiveness, delegate responsibility. Self-analysis and evaluation quizzes help the reader to apply the techniques to his own personality and problems. Includes actual case histories. Using dozens of case histories, the author shows how to deal with people both as individuals and a group, how to commend the willing worker, handle discipline problems, break in new men, control absenteeism, choose assistants, set up work schedules, and prevent feuds among the people directed.
CONTENTS—Appraising Your Leadership. The Vital Key. Tailoring the Technique to Your Needs. Personality Aspects of Leadership. More Power to Your Group. More Power to You. Your Goals.

Supervision and Training

BENNETT—Manager Selection, Education and Training
By WILLARD E. BENNETT, American Petroleum Institute.
210 *pp.*, 5⅝ *x* 8⅜ (1959).....$6.50*i*
How to select, teach, and train managers at every level—from front-line foremen to chief executives—is clearly explained in this book. It can be used as a guide to organizing and starting manager development programs, or as an authoritative check on the effectiveness of programs already in existence. The three essential stages of a successful program—selection, background education, and experience training—are covered in detail, and how to incorporate each into a well balanced, organized whole is fully explained.
CONTENTS—Present State of Manager Development. Climate: Some Obstacles. Climate: Some Requisites. A General Theory. An Overall Plan. Administration. Intellectual Conditioning—Applied. Supervised Training—Applied. Selection—Applied. Perspective.

BITTEL—What Every Supervisor Should Know
By LESTER R. BITTEL, *Factory Management and Maintenance.*
451 *pp.*, 6 *x* 9, 71 *illus.* (1959).....$7.95*t*†
† *Textbook edition available at educational list price.*

An unusually realistic, practical, and direct book that deals with the major, but often overlooked, supervisory problems. Provides answers to over 700 questions on management for the first-line supervisor up to middle-level management. Collects in one place all the really important information a supervisor needs to know about understanding and dealing with people and helping himself to succeed. The question-and-answer approach, the case studies, charts and cartoons help make the book suitable for self-study and classroom use.
CONTENTS.—The Supervisor's Job. PART I. ABOUT PEOPLE AT WORK. People and Human Relations. Attitudes and Morale. Communicating with Employees and Associates. Public and Community Relations. PART II. SUPERVISING PEOPLE, THE FUNDAMENTALS. The Art of Leadership. Organization and the First-line Supervisor. Converting Policy into Action. Manpower Management. Job Analysis and Evaluation. Appraising Employee Performance. Training Employees to Work Well. Supervisor's Role in Labor Relations. Accident Prevention. PART III. SUPERVISING PEOPLE, SPECIAL TECHNIQUES. The Knack of Giving Instructions and Orders. Winning Employee Cooperation. How and When to Discipline. Handling Gripes and Avoiding Grievances. Supervising Women Workers. Supervising Older Workers. Supervising Office Employees. Handling the Problem Employee. PART IV. MANAGING YOUR JOB. Planning the Work Schedule. Time Study Fundamentals. Improving Work Methods. Figuring and Controlling Costs. Shop Housekeeping. Maintaining Machines and Equipment. Securing Better Quality. Protecting Your Plant. PART V. HELPING YOURSELF TO SUCCEED. Rating Yourself for Self-development. How to Hold Group Discussions and Lead Conferences. Writing for Business. How to Manage Your Time Better. How to Get Useful Ideas. Understanding Business Economics. What a Supervisor's Wife Should Know about His Job. Getting Along with Your Boss. Bibliography.

BITTELL—Lo Que Todo Supervisor Debe Saber
465 *pp.*, 6 *x* 9, *illus.* (1962).....$7.50*r**
* *Not for sale in Spain and possessions.*

BLACK AND FORD—Front-Line Management
A Guide to Effective Supervisory Action
By JAMES M. BLACK, National Metal Trades Association, and GUY B. FORD, Assignments in Management, Inc.
282 *pp.*, 5⅜ *x* 8 (1963).....$6.95*t*
In this highly practical and specific management guidebook, supervisors and foremen have a book that is designed both for their individual reading and for use as a training text. It contains numerous "how-to" materials and checklists that have been tested thoroughly in hundreds of companies. The fundamentals of effective supervision are covered in 36 chapters and four main sections: *Training and Personnel Development,* The Supervisor's Key to Competitive Employee Relations; *Communications,* The Supervisor's Assurance of Organizational Efficiency; *Self-Development,* A Supervisor's Program for Self-Improvement; and *Labor Relations,* A Supervisor's Guide to Positive Union Relations.

COOPER—How to Supervise People
By ALFRED M. COOPER. Fourth Edition.
250 *pp.*, 5⅜ *x* 8, 182 *illus.* (1958)....$6.50*t*
A manual for the one-out-of-every-six people employed who is a supervisor of some sort, explaining how foremen and executives may analyze their jobs and apply correct methods of handling supervisory problems they encounter daily in their work. Clearly and concisely it covers all the typical jobs of hiring, reprimanding, firing, getting cooperation, delegating au-

thority, training workers, etc. Provides specific solutions that thousands of supervisors in conference testify are those that get best results. New material in this edition covers problems created by automation, communication needs, and present-day stresses in human relations.

CONTENTS—How to Become a Supervisor. Key Man of Industry. How to Get Out Increased Production. How to Develop Leadership Qualities. How to Promote Teamwork. How to Prevent Industrial Accidents. How to Multiply Your Efforts. How to Train Subordinates. How to Improve Public Relations. Supervision in Time of Stress. Labor-relations Problems. Questions for Group Discussion. Index.

FAMULARO—Supervisors in Action

Developing Your Skills in Managing People

By JOSEPH J. FAMULARO, McGraw-Hill Publishing Co.

238 *pp.*, 5⅜ *x* 8, 15 *illus.* (1961)....$5.95*t*

Offers a well-organized, authoritative view of the supervisor's job. Supervisory problems and functions are approached in an informative manner that provides fresh perspective. Included are chapters on the problem employee, union contracts, performance appraisals, management development, employee training, and other topics.

CONTENTS—Communications. Your Job. Yourself. Selection and Placement. Training. Your Delegation. Your Orders. Your Reprimands. Performance Appraisals. Your Listening Quotient. Your Time. Problem Employees. Union Contracts. Your Bosses. A View.

HEGARTY—How to Build Job Enthusiasm

By ED J. HEGARTY, Business Consultant.

257 *pp.*, 5⅝ *x* 8⅜ (1960).....$5.95*t*

Shows managers the specific ways they can get their subordinates to show an interest in their jobs, improve their day-to-day performance, and prepare themselves for advancement to better jobs. Covers the tools a manager can use to build job enthusiasm such as indoctrination, training programs, tests, and job descriptions, and shows how to use these tools most effectively to improve employee performance and boost job enthusiasm.

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HEYEL—The Foreman's Handbook

By CARL HEYEL, Mergenthaler Linotype Company. Third Edition.

566 *pp.*, 5½ *x* 8, *illus.* (1955).....$9.50*hb*

Helps the foreman do a better job where he is and also prepare himself for advancement to higher positions in industrial management. Twenty-four authorities, each covering an area in which he is a specialist, discuss the problems of the foreman—both those which he handles himself, and those in which he must cooperate with other departments. They also give him the background in present-day scientific management essential to more advanced consideration of the technical and personnel responsibilities.

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KAY AND CLOUGH—Cases in Supervision

By BRIAN R. KAY, University of New Hampshire, and ROY L. CLOUGH, JR., International Packing Corp., Bristol, New Hampshire.

288 *pp.*, 5⅜ *x* 8 (1962).....$5.50*c*

A stimulating challenge for all supervisors and potential supervisors. These provocative cases illustrate typical problems that confront the supervisor in his daily work. The problems posed center around the supervisor's relations with the major groups in his company: *superiors, subordinates, other supervisors, staff personnel,* and *union stewards.* Acting supervisors will readily identify many problems with actual situations; potential supervisors will be prepared to cope with similar problems confronting them in the future. The 133 pertinent, realistic cases call for a variety of responses; analysis of each case stimulates student thinking and encourages dynamic leadership in all supervisors.

CONTENTS—Introduction. PART I. By Himself (25 cases). PART II. His People (42 cases). PART III. The One Above (14 cases). PART IV. With Him (17 cases). PART V. Those Around (23 cases). PART VI. The Other (12 cases).

KAY AND PALMER—The Challenge of Supervision

By BRIAN R. KAY and STUART PALMER, University of New Hampshire.

256 *pp.*, 5⅜ *x* 8, 2 *illus.* (1961).....$6.95*t*†

A realistic approach to the supervisor's problems with two primary objectives. First, to help the supervisor increase his contribution towards the goals set by his company. And second, to increase his satisfaction with the job he's doing by strengthening his ability to supervise men. Each basic principle of human relations is thoroughly discussed. Then, the principle is reinforced and applied in a chapter devoted to problem cases. Throughout, problems, exercises, role-playing and other techniques are given equal weight with statements of principles.

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† *Textbook edition available at educational list price.*

Business and Industrial Psychology

Principles

BENNETT, DEGAN, AND SPIEGEL—Human Factors in Technology

By EDWARD BENNETT, JAMES DEGAN, and JOSEPH SPIEGEL, all of MITRE Corporation, Bedford, Massachusetts.

685 *pp.*, 6 *x* 9, 236 *illus.* (1963) $14.50*r*

The material in this highly interdisciplinary book, which was prepared for the Human Factors Society, is representative of the depth and scope of current research in human factors science and engineering. All the articles are written by prominent scientists and engineers especially for this book and have been thoroughly edited to be comprehensible to specialists in a great variety of fields.

CONTENTS—Introductory Comments. Human Factors in Atypical Environments. Human Factors in Workspace and Clothing Design. Human Factors in Highway Safety. Human Factors in Sensory Supplementation. Human Factors in Manipulation and Manual Extension. Human Factors in the Mechanization of Human Functions. Human Factors Methods and Procedures. Concluding Comments.

GELLERMAN—People, Problems and Profits

The Uses of Psychology in Management

By SAUL W. GELLERMAN, Psychological Consultant.

254 *pp.*, 5⅜ *x* 8 (1960) $6.50*i*

Gives a clear insight into the actual applications of psychology to personnel problems. Stresses the idea that effective management is built upon the attempt to help every individual develop and express his own personality. Also helps managers reach their highest development by creating an atmosphere in which others are motivated to seek the limit of their potentialities. This volume outlines the most effective methods and ideas in personnel psychology that will enable those at the executive and management levels to work most effectively with psychologists and with their ideas and techniques.

CONTENTS—The Psychology of Using Psychology. How People Get That Way. The Company's "Personality." How Psychologist's Work. Everyone but Me and Thee. Face-to-face Management. Human Relations with Real Human Beings. Learning by Making Mistakes. Using Statistics in Psychology. Communication: The Art of Making Sense. A Philosophy for Mature Management.

GILMER—Industrial Psychology

By B. VON HALLER GILMER, Carnegie Institute of Technology. *Series in Psych.*

498 *pp.*, 6 *x* 9, 89 *illus.* (1961) $7.95*c*

An integrated study of the applications of psychology in industry, introducing the new areas of the history of industrial psychology; business operating procedures; organizational theory; and special problems, such as aging, unemployed, handicapped, and women workers. It adds emphasis on the Marketing Mix and deals extensively with the human aspects of systems engineering. Recent research findings are applied to selection, training, leadership, attitudes, labor-management relations, human engineering, marketing, and personal adjustments.

CONTENTS—Preface. PSYCHOLOGY IN INDUSTRY: The Aim and Scope of Industrial Psychology. The Development of Industrial Psychology. THE INDUSTRIAL ENVIRONMENT: The Structures of Organizations. Business Operating Procedures. PERSONNEL PSYCHOLOGY: Human Needs in Industry. Personnel Selection. Training in Industry. Human Relations in Supervision. Executive Leadership and Development. Attitudes, Job Satisfactions, and Industrial Morale. LABOR PROBLEMS IN INDUSTRY: Labor-Management Relations. The Handicapped, Unemployed, and Aging Worker. Women in Industry. PROBLEMS RELATED TO WORK: The Nature of Work. Accidents and Safety. Engineering Psychology. The Newer Roles of the Industrial Psychologist. INFLUENCE AND SOCIAL INTERACTION: The Marketing Mix. The Industrial Community. THE INDIVIDUAL IN INDUSTRY: Industrial Mental Health. Personal Adjustments in Industry.

GHISELLI AND BROWN—Personnel and Industrial Psychology

By EDWIN E. GHISELLI and CLARENCE W. BROWN, University of California, Berkeley. *Series in Psych.* Second Edition.

492 *pp.*, 6 *x* 9, *illus.* (1955) $7.95*c*

Emphasizes basic principles as a means of clarifying problems and analyzes the worker and his problems as part of an integrated whole. Worker ratings, the interview, the development and use of employment tests, industrial training, methods and conditions of work, and other similar subjects are all treated fully.

CONTENTS—The Scientific Study of Human Factors in Industrial Problems. Job and Worker Analyses. Criteria of Proficiency on the Job. Rating Methods. The Interview and Personnel Data Analysis. Use and Characteristics of Psychological Tests. The Evaluation of Tests. Examples of Employment Tests in Use. Definition and Meaning of Effective Work. Conditions of Work and Productivity. Effective Methods of Work and Design of Equipment. Psychological Principles Applied to Problems of Industrial Training. Principles and Methods of Industrial Training. Accidents and the Safety Problem. Monotony. Worker Motivation and Morale.

HAIRE—Psychology of Management, 2nd Ed.

By MASON HAIRE, Univ. of California, Berkeley. *Series in Psych.*

In Press

Deals with basic psychological issues in business problems: wages, organization, leadership, communication, etc. The book focuses on some principles of behavior underlying modern industrial practice and considers organization theory and new thinking about business and psychology. It aims to give a pattern and coherence to the psychological underpinnings of managerial practice in dealing with behavior.

CONTENTS—Introduction. The Nature of People. Leadership and Supervision. Communication. Training. Productivity and Wage-payment Plans. Organizations. Index.

KARN AND GILMER—Readings in Industrial and Business Psychology

By HARRY W. KARN and B. VON HALLER GILMER, both of Carnegie Institute of Technology. *Series in Psych.* Second Edition.

544 *pp.*, 6 *x* 9, 14 *illus.* (1962) . *Cloth* $6.95*c*

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An up-to-date compilation of original papers representing current thinking and research in industrial and business psychology, including material in the new areas of engineering psychology, communications and organizational behavior. Besides the broadened scope, the present collection is more heavily weighted than its predecessor with articles of an experimental and theoretical nature. This new revision exposes the student to a variety of personalities and sources which stimulate critical thinking and ultimate evaluation of the field. The text includes an advanced section of technical papers, suggested by users of the earlier edition, to apprise your students of work being done by sophisticated industrial and business psychologists.

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LAWSHE—The Psychology of Industrial Relations

By C. H. LAWSHE, JR., Purdue University.
350 *pp.*, 6 *x* 9, 26 *illus.* (1953).....$6.50*c*
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An unusually practical presentation of the field of industrial psychology, designed primarily for non-psychologists, supervisors, and managers in industry. While non-technical in approach, the material is based on technical research and places emphasis on practical applications to managerial technique.

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SMITH—Psychology of Industrial Behavior

By HENRY CLAY SMITH, Michigan State University.
477 *pp.*, 6 *x* 9 (1955).....$7.25*c*

Clarifies the human problems of modern industry and presents the psychologist's solutions to them. Reflects the modern trend in industrial psychology, which is away from the narrow field of employee testing and selection and toward the problems of work motivation and the broader group and social problems of industry. Among the topics treated extensively for the first time in book form are: goals of industry, job anxiety, work motivation, and union-management relations.

CONTENTS—WORK MOTIVATION. Psychology and Goals of Industry. Financial Incentives and Fatigue. Why Men Work: Need Satisfaction. THE MAN AND HIS JOB. Obstacles to Need Satisfaction. Job Anxiety. Job Satisfaction. Employee Adjustment. Human Engineering. HUMAN RELATIONS. Group Dynamics. Supervision. Organization. Union-Management Relations. PSYCHOLOGICAL METHODS. How the Psychologist Works. The Measurement of Satisfaction and Productivity. Predicting with Interviews and Tests. Training Employees and Executives. Consumer Research. CONCLUSIONS.

Personnel Testing and Interviewing

LAWSHE—Principles of Personnel Testing

By C. H. LAWSHE, JR., Purdue University.
Indsl. Orgn. & Mgmt. Series.
227 *pp.*, 6 *x* 9, 125 *illus.* (1948).....$5.75*c*

Effective procedures for selecting, validating, and using personnel tests in business and industry are fully discussed. The book emphasizes procedure and results and gives an accurate picture of the scope of each test. It is practical and useful for all those in managerial positions or as a training aid for those who will eventually administer testing programs.

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Advertising Psychology

LUCAS AND BRITT—Advertising Psychology and Research

An Introductory Book
By DARRELL B. LUCAS, New York University, and STEUART HENDERSON BRITT, Northwestern University.
765 *pp.*, 6 *x* 9, *illus.* (1950).....$8.95*c*

An authoritative text for students of psychology and of advertisting. It combines psychological principles with extensive application of practical research methods.

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Practical Business Psychology

LAIRD AND LAIRD—Practical Business Psychology

By DONALD A. LAIRD and ELEANOR C. LAIRD.
Third Edition.
472 *pp.*, 6 *x* 9, *illus.* (1961).....$8.25*t*†
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This realistic, hard hitting book is designed for everyone in business who wishes to get ahead in his career and to get along with his coworkers, his superiors, and himself. It shows by countless true examples the techniques of achieving good morale in an office, factory, and industrial community. Personal efficiency, human relations and morale, personality and emotional health, personal leadership, and group co-operation are all discussed in detail.

CONTENTS—Personal Efficiency. Human Relations and Morale. Personality and Emotional Health. Personal Leadership and Group Co-operation.

LAIRD AND LAIRD—Practical Sales Psychology

By DONALD A. LAIRD and ELEANOR C. LAIRD.
291 *pp.*, 5½ *x* 8, 18 *illus.* (1952).....$4.95*t*

This field-tested manual offers a completely sound text emphasizing the modern psychological approach in selling. The main part of the book deals with the practical application of a customer-centered and service-conscious sales personality. Here the student learns how to create and use a friendly situation, how to help the customer feel important, how to inspire trust, and how to make it easy for the customer to decide. The principles are supple-

† *Textbook edition available at educational list price.*

mented by stories that demonstrate exactly how to do it, with examples from the lives of well-known individuals, and with vivid anecdotes.

LAIRD AND LAIRD—Sizing Up People
By DONALD A. LAIRD and ELEANOR C. LAIRD.
259 *pp.*, 5½ *x* 8 (1951).....$4.95*t*
Based on a sound scientific knowledge of the psychology of individual differences, the material in *Sizing Up People* is presented in simple, everyday language. It emphasizes the practical applications of modern psychological theories in many business situations. Numerous examples from present-day business and industry, as well as from the pages of history, clarify each psychological principle presented. Other practical aids include training exercises and self-tests which will be of inestimable assistance to the student in improving his ability to judge other people.

LAIRD AND LAIRD—The Techniques of Delegating
How to Get Things Done Through Others
By DONALD A. LAIRD and ELEANOR C. LAIRD.
225 *pp.*, 5⅜ *x* 8, 13 *illus.* (1957)....$4.95*td*
This first book completely devoted to delegating shows how to get things done through others successfully and efficiently. Discusses psychological aspects as well as how-to techniques which include finding out when delegating is needed, delegating for executive success, planning of delegation, selection of times to delegate, and the right and wrong people to whom one can delegate. Filled with human-interest stories, anecdotes, self-analysis tests, quizzes, charts, and cartoon illustrations. The Lairds are the authors of many best-selling works, including *The Technique of Getting Things Done* and *The Technique of Handling People.*

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PSYCHOLOGY AND HUMAN DEVELOPMENT IN EDUCATION

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Van Dalen—Understanding Educational Research

Administration

AYARS—Administering the People's Schools
By ALBERT L. AYARS of Hill and Knowlton, Inc. *Series in Educ.*
354 *pp.*, 6 *x* 9, 54 *illus.* (1957).....$6.95*c*

Here is a source of proven, practical suggestions covering not only the ingredients of sound, long-range educational planning in successful school administration, but also the specific information needed in routine day-to-day tasks. This book interrelates administration, supervision, curriculum, and instruction, making clear the responsibilities of the superintendent in each. Thus, the book enables the administrator to see the *total task*, rather than treating his responsibilities in compartments.

CONTENTS—Preface. THE STORY OF SCHOOL ADMINISTRATION. Getting the Job. Starting the Job. Running the Office. Getting Ready for the Year. THE ADMINISTRATOR DEALS WITH PEOPLE. The Public. The Board. The Staff. The Pupils. THE ADMINISTRATOR RUNS AN INDUSTRY. Where Is the Money? Buying Supplies and Equipment and Providing Insurance. Providing Services. Putting Up Buildings—Operating and Maintaining. THE ADMINISTRATOR IS AN EDUCATOR. Curriculum Improvement and In-service Development. Administering Special Curricular Services. Evaluating School Practices and Personnel. Maintaining the Freedom to Teach and Learn. Index.

BENT AND McCANN—Administration of Secondary Schools
By R. K. BENT, University of Arkansas, and L. E. MCCANN, University of Arizona. *Admin. in Educ. Series.*
356 *pp.*, 6 *x* 9, *illus.* (1960).....$6.95*c*

This up-to-date text, addressed to the faculty as well as to the principal, deals with all those problems which are encountered in the operation of the secondary school. General administrative practices are kept to a minimum, as are the purely mechanical aspects of administration, except when troublesome areas necessitate their attention. Important questions answered are: Where do we really get our curriculum? Who makes policies? Just what policies can the local high school make? How is actual school operation influenced by higher educational authorities, accrediting bodies, activities associations, and similar school groups

with which a local school may be affiliated? How does the informal organization of a school operate?

CONTENTS—THE SETTING FOR LEADERSHIP IN SECONDARY SCHOOLS. The Secondary School in America. The High School Administrator. Policy Guides for School Operation. ORGANIZING THE STAFF FOR LEADERSHIP. Staff Organization in the Secondary School. Increasing Professional Potential of the Staff. The Exercise of Leadership Through Professional Organizations. IMPLEMENTING THE SCHOOL PROGRAM. Curriculum Administration. Administering Special Curriculum Areas. Administration of the Student Activity Program. The Administration of Intra-School Activities. The Administration of Inter-Scholastic Activities. SERVICING THE SCHOOL PROGRAM. Coordinating the School Program. The Control of Discipline. The Management of Pupil Attendance. The Administration of Pupil Personnel. THE MANAGEMENT OF BUSINESS AFFAIRS. Business Management Functions. The Administration of Whole School Services. School Office Management.

COOK AND COOK—School Problems in Human Relations

By LLOYD and ELAINE COOK, formerly College of Education, Wayne State University. *Series in Educ.*

219 *pp.*, 5⅜ *x* 8, 8 *illus.* (1957).....$6.50*c*

This is a study of problems in human relations in and about schools and of what was done, or might have been done, to solve them. The book consists mainly of concrete cases gathered by the authors as consultants to schools and communities, plus data from the social sciences. This book is intended for courses or workshops in human relations problems solving, school-community relations and school administration social education.

CONTENTS—Preface. SETTING AND PROBLEM. Introduction—Human Relations Education. The Practice of Problem Solving. Determining Human Relations Course Objectives. SOLVING SCHOOL PROBLEMS. First Teaching, the Beginner. Room Order, Teacher Method. Teaching Children Who Differ. Issues in Intergroup Relations. Mass Media. Uses and Control. Student Nonclass Activities. School and Home Relations. Area Study and Action Issues. School Head and Staff Relations. THE TEACHER-LEADER ROLE. Teaching as Group Management. Democratizing School Administration. Community Change, Leader Roles. Index.

JORDAN—Elementary School Leadership

By WILLIAM C. JORDAN, Wesleyan University.

323 *pp.*, 6 *x* 9, 13 *illus.* (1959).....$6.50*c*

Applying theory to practice, the author of this comprehensive text defines the specific responsibilities and functions of the elementary school administrator. The book points out clearly and simply principles of operation and relates them to practical activities of the school, discussing this material under the headings of philosophy, organization and administration, pupils, staff, supervision, curriculum, and community. Of especial interest to teachers is the author's new interpretation of their role in education.

CONTENTS—Preface. The Principal and His Philosophy of Education. The Principal and School Organization and Administration. The Principal and His Staff. The Principal and His Pupils. The Principal and Supervision. The Principal and the Curriculum. The Principal and the Community.

McCOY—American School Administration

Public and Catholic

By RAYMOND F. MCCOY, Xavier University. *Cath. Series in Educ.*

489 *pp.*, 6 *x* 9, 15 *illus.* (1961).....$7.50*c*

The first textbook to combine material on both Catholic and public schools, stressing the basic principles of sound school administration applicable to both, as well as the special factors in the Catholic school systems. The book is specifically intended for courses—mainly graduate—in Catholic colleges teaching School Administration. Major developments in American Catholic education are covered briefly, as are the major Supreme Court decisions affecting Catholic schools. Also included is a basic treatment of the role of the Holy See, canon law, regulations of the Sacred Congregations, and the bishops of the Church in the control of Catholic education.

CONTENTS—The Nature and Complexity of Administration. Development from Administrative Simplicity to Administrative Complexity. Catholic Church and Education. The Federal Government and Education. The States and Education. Local Units and Education. Instruction: The Curriculum. Instruction: Supervision. Instruction: Testing. Instruction: Counseling and Guidance. Administrative Operation: School Organization. Administrative Operation: School Discipline. Administrative: Essential Policy Molds. Administrative Operation: Legal Liability. Administrative Operation: Teacher Personnel. Pupil Personnel Services. Business Management: School Finance. Business Management: School Housing. Business Management: Supplies and Food Services. School Public Relations. Research.

MORT AND ROSS—Principles of School Administration

A Synthesis of Basic Concepts

By PAUL R. MORT, Teachers College, Columbia University, and DONALD H. ROSS, New York State Department of Education. *Series in Educ.* Second Edition.

435 *pp.*, 6 *x* 9, 6 *illus.* (1957).....$6.95*c*

Presents a series of approaches to sound school administration. Its contention is that school administration can be taught in three ways: by a logical organization of the subject matter in which administrators make decisions, by a logical organization of the criteria involved in decision-making, by a combination of these two bases of organization. The book is unique in that it approaches the job not from the separate acts and knowledges needed, but from an integrative approach which will enable the administrator to face new problems securely.

CONTENTS—Orientation of Value Systems with School Administration. The Humanitarian Principles. The Prudential Principles. The Tempo Principles. Synthesis. Supplements. Index.

HAGMAN—Administration of Elementary Schools

By HARLAN L. HAGMAN, Wayne State University. *Series in Educ.*

339 *pp.*, 6 *x* 9, *illus.* (1956).....$6.50*c*

A wide-angle view of the elementary school principal in the larger setting of present-day education. Textbook treatment is utilized in the discussions of foundational aspects of administration. Consideration is given to such problems as curriculum development, education of exceptional children, home-school relations, and modern aids to teaching and learning. Theory is related to practice. There are study questions, anecdotes of a principal's experience, and extended bibliographies with each chapter.

CONTENTS—How This Book May Be Used. The Elementary School Principal. An Understanding of Purpose. An Understanding of Planning. An Understanding of Organization. An Understanding of Authority. A School Is Many Things. The School at Work. The Unique Needs of Children. The Home and the School. Community Influences. The Elementary School Teacher. The Principal as Supervisor. Aids to Learning. The School Building. The Principal as Prophet. Appendix (List of Text Films). Index.

KEEZER—Financing Higher Education: 1960–70

The McGraw-Hill Book Company 50th Anniversary Study of the Economics of Higher Education in the United States

Edited by DEXTER M. KEEZER, McGraw-Hill Publishing Company.

295 *pp.*, 6 *x* 9, *illus.* (1959).....$2.00*t*

Appraises methods and approaches by which the financial needs of a wide variety of educational institutions—both publicly and privately supported—may best be met in the decade ahead. Covers such topics as broad financial issues; research's contributions; cooperation between colleges and business firms; more efficient management of curriculum and plant; and the role of government. New methods of financing are suggested, and some older methods are re-examined in a new and more revealing light. The book is comprised of papers prepared by leading educators and foundation executives as part of a study, sponsored by the McGraw-Hill Book Company, of higher education's future financial needs. First drafts of the papers formed the basis for a conference held in cooperation with Amherst College's Merrill Center for Economics, at which the authors discussed their findings and recommendations with a group of educators, economists, editors, and businessmen who were not involved in the writing. The papers were then revised to reflect new insights gained during the conference. They are presented in this volume, with an introduction by Dexter M. Keezer, and a summary by Willard L. Thorp, Director, The Merrill Center for Economics, and Professor of Economics, Amherst College.

CONTENTS—Introduction. An Economist's Overview. Broad Financial Issues. Research's Contribution. Conflict and Cooperation. Potentialities of Better Institutional Management. Long-range Planning: A Case Study. The Role of Student Charges. The Role of Government Support. The Role of Private Support. Outside the Conventional Structure. Probabilities and Possibilities.

MICKELSON AND HANSEN—Elementary School Administration

By P. P. MICKELSON and KENNETH H. HANSEN, Western State College of Colorado. *Series in Educ.*

335 *pp.*, 6 *x* 9, 32 *illus.* (1957).....$6.50*c*

In this book, a sound background of theory and sufficiently detailed exposition of actual practice is blended into a program of action for the betterment of elementary school administration. Emphasis is placed on the administrative leadership function of the principal. The authors provide more than the usual coverage on how to work with parents, how to develop moral and spiritual values in the school program, and how to relate the school program to community needs.

CONTENTS—Preface. The Elementary School Today. The Role of the Principal—an Overview. Educational Structure and the Principalship. Managing the Elementary School. The Principal and Instructional Leadership. The Principal and the School Curriculum. The Principal and Instructional Materials. Guiding and Evaluating the Learning Process. The School in the Community. Working with Parents. Staff Relations. Moral and Spiritual Values in the Elementary School. Special Services in the Elementary School. The Instructional Plant. The Career of the Principal. Administrative Leadership. Index.

MORT, REUSSER AND POLLEY—Public School Finance

By PAUL R. MORT, Columbia University; WALTER C. REUSSER, University of Wyoming; and JOHN W. POLLEY, Columbia University. *Admin. in Educ. Series.* Third Edition.

512 *pp.*, 6 *x* 9 (1960).....$7.95*c*

This is a very thorough revision of the standard book in the field. The purpose of the book is to give students a thorough grounding in the philosophy and techniques of the state and local aspects of school finance. Among its strong features are: a review of developments in school finance past 50 years; emphasis on the "how-to" solve problems of finance; spelled-out philosophy of the operation of state and local finance systems; exercises to benefit both beginning and advanced students.

CONTENTS—THE FISCAL SETTING OF PUBLIC SCHOOL FINANCE IN THE UNITED STATES. Levels of Government and Public Education. Characteristics of Government and the Financing of Schools. State and Local Responsibility: The Foundation-Program Concept. Local Fiscal Machinery. EVALUATION. Cost and Character of Education. Education, the Culture and the Economy. Expenditure Level and Other Facts of Great Yield. TAXATION. Local Taxation for Education. State Sources of School Revenue. Federal Sources of Revenue. STATE AND FEDERAL PARTICIPATION IN SCHOOL SUPPORT. The Evolution of State-aid Systems. Tax Sharing: Access to Community Resources. The Equalization Objective. Design for State-aid Systems. State Aid as an Instrument of Control. State Aid for Transportation and Capital Outlay. Federal Financing of Education. OPERATIONAL FINANCE. A Design for Local Financial Administration. Budgeting School Funds. Financial Accounting. Finance and Personnel Service. Financing Capital Outlay. Supply and Equipment Management. School Property Management. Auditing, Reporting, and Safeguarding School Funds.

ROE—School Business Management

By WILLIAM H. ROE, Michigan State University. *Admin. in Educ. Series.*

313 *pp.*, 6 *x* 9, 28 *illus.* (1961).....$7.95*c*

The purpose of this text is to identify the basic functions of school business administration, establish their relationship to the total school organization, and develop management processes and principles fundamental to success in facilitating the instructional process. A complete and comprehensive picture of school business administration is obtained with increased emphasis given to the *management approach*, and less to what might be termed the descriptive or "how-to-do-it" approach.

CONTENTS—Preface. Business Management: A Part of Educational Administration. Organization. Personnel Administration and the Non-Certified Employee. Office Management. School Budgeting. Administration of the Accounting and Auditing Function. Purchasing. Supply Management. Long Range Planning. Building the New School Building. Maintenance and Operation. Transportation. Insurance Program and School Safety. School Food Service. Legal Counsel and the School.

STREVELL AND BURKE—Administration of the School Building Program

By WALLACE H. STREVELL, University of Houston; and ARVID J. BURKE, New York State Teachers Association. *Admin. in Educ. Series.*

443 *pp.*, 6 *x* 9, 34 *illus.* (1959).....$7.50*c*

Written from the viewpoint of the local unit of government, this unique text meets the needs of graduate students and administrators for a completely integrated philosophic and technical approach to planning. Part I analyses realistic policy decisions and procedures for long-range planning. Part II provides a comprehensive treatment of the administrator's approach to school building needs, including ideas on techniques of community surveys, enrollment estimation, capacity and utilization measures, and conservation of existing plant. Part III covers architectural services, finance and public relations, and budget and legal services.

CONTENTS—Preface. POLICY DECISIONS. Need for School Facilities—Administrative Perspective. Agreement on Needs—The Participatory Approach. The Long-range-program Approach. Advancement of the School-building Project. PROGRAM RECOMMENDATIONS. Studies of School-facility Requirements. Development of Community Standards for School Facilities. Evaluation of Existing Plant. Utilization of Available Facili-

ties. Determination of Additional Plant Required. Program Formulation and Project Sequence. Site Selection and Development. Preparation of Educational Specifications. PROJECT ADMINISTRATION. Legal Problems and Services. The Capital Budget. Capital-outlay Finance. Relations with the Public. Architectural Services. Problems of Design and Economy. Construction Problems. Advancement to Occupancy. Index.

REMMLEIN—The Law of Local Public School Administration

By MADALINE K. REMMLEIN, The National Education Association. *Series in Educ.*

271 *pp.*, 6 *x* 9, 1 *illus.* (1953).....$6.50*c*

A general descriptive treatment of school administration from the legal point of view. This book is primarily for the administrator or prospective administrator, and includes such topics as the powers, duties, and liabilities of school boards, school finance, district organization, building construction, and pupil transportation, among others. These are described in terms of statutory provisions and their judicial interpretations, with sufficient reference to legal citations. The book is national in scope, thus providing the means for evaluation of the law current in any particular state.

CONTENTS—Preface. The Legal Status of Local School Boards. School Finance. Creation and Alteration of School Districts. Buildings and Sites. Pupil Transportation. Personnel Administration. Pupil Regulations. Public School Boards and Private Schools. Liabilities of School Boards. Index.

KERSHAW AND McKEAN—Teacher Shortages and Salary Schedules

By JOSEPH A. KERSHAW, Williams College and ROLAND N. MCKEAN, The RAND Corporation.

216 *pp.*, 5 1/16 *x* 8, *illus.* (1962).....$5.50*t*
McG-H Paperbacks Ed. $2.95*pb**

In this book the author-economists present their solution to the problem of teacher shortages and the problems of cost and quality. They are convinced that salary structure, rather than salary level is the key to understanding the nature of current teacher shortages and to overcoming these shortages at an acceptable cost to the community. Teacher salary schedules, they say, differ fundamentally from the patterns of salaries in other professions where "market" conditions play their usual economic role in determining payment for various kinds of skills. They point out that under the present "unified" salary schedule, teachers possessing scarce subject matter skills (such as physics and mathematics) receive the same salaries as teachers whose skills are in ample supply. Teacher remuneration under the present system is compared to that which would exist if market conditions were allowed to play a role in the establishment of salaries for the different scales. The authors believe that high quality education can be achieved at moderate cost if additional funds are used to attract the necessary teachers to fill the vacancies which are most acute.

CONTENTS—Introduction. Teacher Supply and Demand. Development of Salary Schedules. The Case for Additional Salary Differences. The Markets for Professional Skills. Relative Shortages of Teaching Skills. A Survey of Shortages in the Secondary Schools. The Shortages in Relation to Salaries. Future Costs under Alternative Policies. Methods of Salary Reforms: Overcoming the Practical Difficulties. APPENDIX: Further Information about Salary Structure. More about the Survey of Secondary Schools. Variability of Percentages of Teachers Teaching Outside Their Field, with Schools Sorted by Salary Levels.

* *Available only through your local bookstore.*

Supervision

HAMMOCK AND OWINGS—Supervising Instruction in Secondary Schools

By ROBERT C. HAMMOCK, University of Pennsylvania, and RALPH S. OWINGS, Mississippi Southern College. *Series in Educ.*

316 *pp.*, 6 *x* 9, *illus.* (1955).....$6.50*c*

Designed to help those concerned with the improvement of curriculum and instruction, this basic text for students of education in college or in service presents the principles and techniques of educational supervision in their cause-consequence relationships. The book touches upon the entire field of supervision in the secondary school and emphasizes the interrelatedness of curriculum, instruction, and supervision—not only in their basic philosophy, but also in their unity of purpose and in their influences upon one another.

CONTENTS—The Secondary School and Supervision. Characteristics of the Program of Supervision. Participants in the Program of Supervision. The Group Process. Planning for Supervision. Study Groups and Workshops. Faculty Co-operation and Communication. Some Other Supervisory Procedures. Professional Libraries. Evaluation of Teaching and of Supervision. Co-operative Administration and Supervision. Financing Programs of Supervision. The Supervisor.

LUCIO AND McNEIL—Supervision

A Synthesis of Thought and Action

By WILLIAM H. LUCIO and JOHN D. MCNEIL, both of the University of California, Los Angeles. *Admin. in Educ. Series.*

296 *pp.*, 6 *x* 9, 9 *illus.* (1962).....$6.50*c*

This textbook analyzes the sources contributing to theories of supervision, helping supervisors and administrators to define better the purpose of the schools, means to these ends, and methods for testing the effectiveness of both procedures and ends.

It applies to all levels of supervisory thought and action from elementary through higher education. Testable theories, as well as illustrations drawn from school settings at all levels, are presented.

CONTENTS—THE NATURE OF SUPERVISION. Historical Perspective of Supervision. Who Is a Supervisor. Selection and Preparation of Supervisors. SOCIAL SYSTEMS AND SUPERVISION. Political and Bureaucratic Structure of Schools. Strategies and Tactics for Program Improvement. Factors Determining Effectiveness and Efficiency in Schools. HUMAN SKILLS IN SUPERVISION. How Supervisors and Teachers See Each Other. Factors in Learning and Supervisory Behavior. TECHNICAL SKILLS IN SUPERVISION. Assessment of Teacher Performance. Methods of Research. A Rationale for Development of Curriculum.

McNERNEY—Educational Supervision

By CHESTER T. MCNERNEY, The Pennsylvania State University. *Series in Educ.*

341 *pp.*, 6 *x* 9, *illus.* (1951).....$6.50*c*

Treats supervision as something that requires well-organized educational leadership in the various subject matter fields as well as in human-relations engineering. Indispensable reference for teachers in service and administrators, and an excellent text for college courses on supervision.

CONTENTS—An Introduction to Modern Supervision. The Objectives of Education. The Nature of Teacher-Supervisor Planning. The Nature of Evaluation. Evaluating the Results of Teaching. Superintendents and Supervision. Supervisor and Principal Relationships. Improving Curriculum Practices. Studying the Community. Accounting to the Public. Evaluating the School Plant. The Preservice Training of Teachers. The In-service Training Program. Supervision for Tomorrow. Suggested Bibliography for Supervisors. List of Visual Aids. Index.

NATIONAL EDUCATION ASSOCIATION—Schools for the Sixties

Prepared by the NATIONAL EDUCATION ASSOCIATION/PROJECT ON INSTRUCTION.

160 *pp.*, 5⅜ *x* 8 (1963).....$3.95*t*
*McG-H Paperbacks Ed.**

This report, one of a series of four published by the Project in 1963, makes 33 specific recommendations on twelve crucial issues facing education in the sixties. The report focuses upon two general areas of concern—Deciding What to Teach and Planning and Organizing for Teaching. These two areas of concern, along with a volume of social forces and trends entitled Education in a Changing Society, were published by the NEA as separate reports. Specific issues analyzed include the role of research, who should make what decisions about education, priorities for the schools, team teaching, ability grouping, instructional technology, and teaching about controversial issues and communism.

CONTENTS—Foreword. From Many Voices. The Right Questions. Deciding What to Teach. Planning and Organizing for Teaching. In the Future. Appendices.

School and Society

COOK AND COOK—A Sociological Approach to Education

A Revision of Community Backgrounds of Education

By LLOYD ALLEN COOK and ELAINE FORSYTH COOK, formerly Wayne State University. *Series in Educ., Found. in Educ.* Third Edition.

371 *pp.*, 6 *x* 9, 32 *illus.* (1960).....$6.95*c*

Successful classroom testing has made this new edition even more readable and teachable; the text begins with social change, value conflict, and the need to involve schools and communities in solving local educational problems. Part I introduces the sociological, anthropological and psychological aspects for relating education to society with the American scene of today as the center of interest. Part II, a study of child socialization, includes the total process of child growth, development and education. Part III, on school and community, raises and seeks to answer the question: What is a healthy public school?

CONTENTS—Preface. INTRODUCTION. The Beginning—A Point of View. CASE STUDIES OF COMMUNITIES. Area Study for School Personnel. A Village That Chose Progress. The Homesteaders, Value Persistence. Social Class in Jonesville. Regional City, the Power Structure. The Great Metropolis, Urban Planning. CHILD LIFE AND THE SCHOOL. Acculturation of the Young. Influence of the Family. The School and Child Acculturation. Organizing Influence of the Job. Street Gangs and Delinquency. Mass Communication Media and Youth. SCHOOL AND COMMUNITY. The Healthy Public School. Group Dynamics in School Settings. Community Action for Better Schools. IN CONCLUSION. The Education of Educators.

History and Philosophy

BRUBACHER—A History of the Problems of Education

By JOHN S. BRUBACHER, University of Michigan. *Series in Educ.*

688 *pp.*, 6 *x* 9, *illus.* (1947).....$7.95*c*

The author offers a "longitudinal" approach to the history of education by tracing in each chapter the development from antiquity to the present day of some major educational concept.

CONTENTS—Educational Aims. Politics and Education. Nationalism and Education. Economic Influences on Education. Philosophy of Education. Educational Psychology. Methods of Instruction. Curriculum. Religious and Moral Education. Formal and Informal Education. Elementary Education. Secondary Education. Higher Education. Professional Education of Teachers. Public and Private Education. Educational Administration and Supervision. The School Progress. Bibliography and Commentary.

BRUBACHER—Modern Philosophies of Education

By JOHN S. BRUBACHER, University of Michigan. *Found. in Educ.* Third Edition.

384 *pp.*, 6 *x* 9 (1962).....$6.95*c*

This well-known text is distinguished by both a comparative and philosophical organization. The present revision includes a great number of changes and new material to bring the book completely up to date.

It includes "existentialism" and "linguistic analysis," and an increased emphasis on politico-economic philosophies of education. Many new titles and authors have been added to the footnotes and bibliography.

CONTENTS—Preface. The Role of Educational Philosophy. Generic Traits of Existence. The Nature of Human Nature. The Theory of Knowledge. Educational Values. Politics and Education. The State and Education. The Economic Order and Education. The School and Social Progress. Professional Ethics. The Educative Process. Religious and Moral Education. Systematic Philosophies of Education. Consensus Among Philosophies of Education. Bibliography. Index.

BUTTS—A Cultural History of Western Education

Its Social and Intellectual Foundations

By R. FREEMAN BUTTS, Teachers College, Columbia University. *Series in Educ.* Second Edition.

640 *pp.*, 6 *x* 9, *illus.* (1955).....$7.95*c*

Emphasizes the interaction of culture and education. By placing American education in the perspective of Western traditions, the book provides a sound historical interpretation upon which future decisions and policies can be based.

CONTENTS—The Beginnings of Culture and Education in the Eastern Mediterranean World. Social Foundations of Greek Education. Intellectual Foundations of Greek Education. The Roman World. The Middle Ages: Social Foundations of Education. The Middle Ages: Intellectual Foundations of Education. The Renaissance. Religious Reformation and Scientific Revolution. The Reformation in America. The Age of Reason and Enlightenment. The American Response to the Enlightenment. Social Foundations of Modern European Education. Intellectual Foundations of Modern European Education. Nineteenth-century America: Social Foundations of Education. Nineteenth-century America: Intellectual Foundations of Education. America in the Twentieth Century: School and Society. America in the Twentieth Century: Ideas and Education.

COX AND MERCER—Education in Democracy

Social Foundations of Education

By PHILIP W. L. COX, New York University, and BLAINE E. MERCER, University of Colorado. *Found. in Educ. Series.*

570 *pp.*, 6 *x* 9, *illus.* (1961).....$6.95*c*

A "social science" approach to the study of the American Educational system, this text enables the student to comprehend the major dynamics of his society and the many ways in which the school must respond to them. The authors encourage the student to create his own ideas, to develop his own judgments about any and all educational issues which come before him.

CONTENTS—The Dynamic Character of American Society. The Education of Americans. Culture Worlds of Childhood and Youth. Family and Neighborhood. Other Social Establishments. Social Ideas and the Communication of Values. The School and Its

Heritage. Group Processes in the School. The Coordination of Educational Forces. Wealth, Prestige, and Power. Important Economic Factors in American Life. Commonwealth: A Basis of Social and Economic Organization. Science, Power and Freedom. The American Quest for the Good Life. The United States and the Search for a Humane World Order. Education and the Processes of Change. Some Educational Responses to Social Change. The Concept of Guidance in American Education. Education for Responsible Community Life. The Creative Community School. The Community and the Pioneering School. Experiments in Community Education. Education and Planned Community Change. APPENDIX: Selected Periodicals. INDEX.

JOHNSTON—A Philosophy of Education

By HERBERT JOHNSTON, University of Notre Dame. *Cath. Series in Educ.*

384 *pp.*, 6 *x* 9, *illus.* (1963).....$6.50*c*

Doctrinal in approach, this book considers man as an educable being and discusses the development of the virtues constituting his education. Attention is given to the various agencies devoted to helping persons grow and the educational aims and functions proper to each agency. This last topic is then narrowed to consider especially the kinds of knowledge with which the school should be concerned and further narrowed to examine, through the *De Magistro* of St. Thomas Aquinas, the related classroom functions that are learning and teaching. Also discussed are tax support for church-related schools by way of a properly philosophical analysis of the nature of such societies as the state, the home, the school, and the church, and the consequent rights and obligations of each of these in the educational process; the traditional problems of the nature and purpose of Catholic education; the relation of liberal and vocational knowledge; education for citizenship; and the nature and aims of classroom teaching.

MEYER—Educational History of the American People

By ADOLPHE E. MEYER, New York University. *Series in Educ.*

444 *pp.*, 6 *x* 9, 45 *illus.* (1957).....$6.95*c*

Examines the salient landmarks of American educational history. It is the author's thesis that education is a reflection of the social order, at all times and in all places, and he has interwoven the educational past with its cultural context. Challenging appraisals are made of the pedagogy of John Dewey, the psychological movement in education, the scientific movement in education, and progressive education.

CONTENTS—THE BEGINNINGS. Antecedents. The Bible State. Southern Laissez Faire. Middle Colony Parochialism. After Yorktown. Early Practices. GROWTH AND EVOLUTION. The Cradle of the Common School. The Educational Awakening. The State System Comes of Age. Some Other Developments. Up from Appomattox. The Development of Educational Theory. THE CURRENT STATE. The Rise of a Native Pedagogy. The Psychological Movement in Education. The Scientific Movement in Education. The New Education. The Higher Learning. Adult and Workers' Education. Intercultural and International Education. The Teacher and the Profession. Conspectus: The Practice and the Problems. Bibliographic Note. Index.

POWER—Main Currents in the History of Education

By EDWARD J. POWER, Boston College. *Cath. Series in Educ.*

529 *pp.*, 6 *x* 9, *illus.* (1962).....$7.50*c*

The main theoretical foundations in the history of educational thought are presented in this comprehensive text. Beginning with the Greeks of the seventh century B.C., the author takes the reader up to the 20th century in American education. The well-balanced treatment covers the period from 600 A.D. to 1600 A.D., as an educational history.

CONTENTS—Education in Early Societies. Intellectual Ideals and Educational Practices in Greece. Greek Educational Thought. Greek Education in Transition. Roman Educational Thought and Practice. Educational Thought and Practice in the Early Years of Christianity. Christian Education from Boethius through the Carolingian Renaissance. Medieval Education. The Classical Renaissance and Education. The Protestant Revolt. Catholic Reforms and Education. Realism in Education in the Seventeenth Century. Naturalism in Education in the Eighteenth Century. Scientific and Nationalistic Education in the Nineteenth Century. Education in the United States. American Education in the Twentieth Century.

THOMAS—The Search for a Common Learning

General Education, 1800–1960

By RUSSELL THOMAS, The University of Chicago. *Carnegie Series in Amer. Educ.*

365 *pp.*, 6 *x* 9 (1962).....$6.95*ct*

The book traces the history of the term "general education" in American higher education throughout the last one hundred and fifty years, the basic concept of a common intellectual experience for which the term has always stood, and the growth of this concept as ideas about liberal education gradually came to embrace not only a common intellectual experience but a study in some depth of one subject matter or "discipline." Approximately two-thirds of the book is concerned with the present practice of "general education" in American colleges, but this material is placed in the context of earlier history of the American college, which helps to make the differences in practice as well as the common aims more intelligible. The author presents a description and analysis of a representative number of individual programs at different kinds of institutions: Amherst, Antioch, Berea, Brooklyn College, Goucher, University of Louisville, Macalester, Michigan State, Mills, Minnesota, Notre Dame, University of Oregon, Reed, St. John's College, St. Xavier, San Francisco State, Stanford, and Washington State.

CONTENTS—Preface. Introduction. THE HISTORICAL BACKGROUND OF GENERAL EDUCATION, 1800–1930. A Century of Expanding Knowledge and Social Evolution, 1800–1910. Mid-Century: Four Views about College Education, 1842–1869. The Interests of the Individual and the Common Interest. 1870–1909. Two Decades of Curricular Reform, 1909–1930. CONTEMPORARY PROBLEMS OF GENERAL EDUCATION—A STUDY OF ENDS AND MEANS. Content and Organization: Some Theoretical Distinctions. The Colleges Speak for Themselves. A Retrospective View. APPENDIX. INDEX.

THUT—The Story of Education

Philosophical and Historical Foundations

By I. N. THUT, University of Connecticut. *Series in Educ.*

410 *pp.*, 6 *x* 9, 73 *illus.* (1957).....$6.95*c*

In this distinctive new work the author provides a historical and comparative approach to the philosophy of education. He discusses all the main philosophical theories concerning the ways in which knowledge is received, discovered, and constructed, and illustrates them with examples from educational history. A special bibliography is provided at the end of each major division. Bibliographical items are classified as they supplement the philosophical, the historical, or the psychological materials provided in the text.

CONTENTS—KNOWLEDGE, DECISION-MAKING AND THE GOOD LIFE. The Role of Knowledge in Decision Making. The School: Symbol of Faith in a Particular Form of Knowledge. Philosophy: Search for Knowledge of the Good. THE THEORY THAT KNOWLEDGE OF

THE GOOD IS RECEIVED. Introduction to the Theory That Knowledge of the Good Is Received. The Method of Reminiscence. Learning to Recall Knowledge. The Method of Revelation. Learning to Receive and Use Revealed Knowledge. The Method of Unfoldment. Learning to Bring Forth Knowledge Implanted within the Soul. THE THEORY THAT KNOWLEDGE OF THE GOOD IS DISCOVERED. Introduction to the Theory That Knowledge of the Good Is Discovered. The Method of Reason. Learning to Discover Knowledge by the Use of Reason. The Method of the Sense Empiricists. Learning to Discover and Use Scientific Knowledge. The Method of Natural Selection. Learning to Survive and Succeed. THE THEORY THAT KNOWLEDGE OF THE GOOD IS CONSTRUCTED. Reaction Against the Theories That Knowledge Is Received or Discovered. The Theory That Knowledge of the Good Is Constructed. Psychology and the Theory That Knowledge Is Constructed. Learning to Construct Knowledge of the Good. A Look Ahead. Index.

WIGGIN—Education and Nationalism
By GLADYS WIGGIN, Univ. of Md. *Found. in Educ.*
528 *pp.*, 6 *x* 9 (1963).....$7.50*c*
Discusses comprehensively the relationship of American education to nationalism. Presents American education on an historical basis in terms of its continuing task of supporting a political republic, and systematically describes the role of legislators and textbook writers in shaping education as a nationalist instrument. The role of imported minorities is also discussed in great detail.
CONTENTS—*Backgrounds of the American School System.* Education and Nationalism. Building an American Nation. Political Influences on American Education. Social and Economic Influences on Education. *Evolution of the American Educational Pattern.* The Search Abroad for Educational Patterns. Professionals Chart a Course: The Age of Committees (1890–1918). General Education as a Curriculum for Americans (1930 to the Present). Legislative Influence on the American Educational Patterns. Textbook Influences on the American Educational Ideal. *Establishing American School Systems.* Population Diversity and American Education. Establishing Schools in the Old Northwest. Establishing Schools for Negroes in Georgia. Establishing Schools for Spanish Americans in New Mexico. Establishing Schools in Hawaii. Education in Retrospect and Prospect. Index.

WOODRING—A Fourth of a Nation
By PAUL WOODRING, Fund for the Advancement of Education.
288 *pp.*, 5⅜ *x* 8 (1957).....$4.95*t*
Over 40 million students are enrolled in our schools and colleges—a fourth of a nation. To cope with this revolutionary fact of American education, here is a challenging and important book which points the way to a new philosophy of American education. Opposed to the vocational directions of present-day educational training, Mr. Woodring, author of *Let's Talk Sense About Our Schools,* believes that a synthesis of these present-day methods with the classical form is the solution to what he feels is a major educational problem. Out of his thirty years of experience in education, he proposes this philosophy of education which he thinks may be acceptable to the American people and proposes dramatic changes in the schools and colleges to make them consistent with the public philosophy.

WOODRING AND SCANLON—American Education Today
By PAUL WOODRING and JOHN SCANLON.
224 *pp.*, 5⅜ *x* 8⅜ (1963).....$5.95*t*
For the past three years, under the sponsorship of the Fund for the Advancement of Education the *Saturday Review* has published a monthly supplement entitled "Education in America." From these articles, the *Saturday Review's* education editors have prepared this volume of two dozen essays by such contributors as Harold Taylor, Jerome Bruner, and John H. Fischer, plus historians Arnold Toynbee and Henry Steele Commager, and United States Senators Joseph H. Clark and Barry Goldwater (debating the issue of Federal Aid to Education), plus school-board members, school superintendents, and parents.

Comparative Education

HANNA—Education
An Instrument of National Goals
Edited by PAUL R. HANNA.
240 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.50*td*
Based on a Stanford University symposium, these views of education by some of the most widely recognized authorities in America today make vitally important reading for every school administrator, every curriculum director, teachers on all levels, and for parents and students. Among the authors who presented papers at the famed Cubberly Conference on which this book is based, are such distinguished leaders as I. James Quillen, Paul R. Hanna, Frank Pace, Jr., Neil H. Jacoby, Claude A. Buss, James R. Killian, Jr., Max Lerner, Robert N. Bush, W. H. Cowley, J. William Fulbright, and John H. Fisher. Together they take a long hard look at American education, its purpose, its goals, its problems, and its role in the nation.

KATZ—Elementary Education in Canada
By JOSEPH KATZ, Univ. of British Columbia.
318 *pp.*, 6¼ *x* 9½ (1963).....$5.95*c*
This book covers the whole field of Canadian elementary education: its history, philosophy, administration, organization, curriculum, and special educational services. Each of the seven chapters in the first portion of the book is written by an authority in the field. The inclusion of case studies of a wide variety of problems and practices provides the reader with numerous concrete examples from which he can better appreciate the principles and methods discussed in the more formal chapters.

Introduction to Education

DE YOUNG AND WYNN—American Education
By CHRIS A. DE YOUNG, Professor Emeritus; with the assistance of RICHARD WYNN, University of Pittsburgh. *Found. in Educ. Series.* Fourth Edition.
411 *pp.*, 6 *x* 9, 16 *illus.* (1954).....$6.95*c*
Correlated Text-Film Series—two motion pictures $170.00
This authoritative and highly respected text, a leader in the field for almost 15 years, has been extensively revised both in content and in format. The book deals with the organization and administration of education at the national, state, county, and local levels. It is concerned with all areas of education from pre-elementary up through adult. Consideration is given to the curriculum, cocurricular activities, education supplies, equipment, buildings, and school finance. Current issues in American education are discussed at length.
CONTENTS—Preface. Editor's Introduction. ORGANIZATION AND ADMINISTRATION OF EDUCATION. National Program of Education. State Systems of Education. County and Intermediate School Units. Local School Districts. AREAS OF PUBLIC EDUCATION. Preelementary Education. Elementary Education. Secondary Education. Higher Education. Adult Education. PERSON-

NEL IN EDUCATION. Pupils. Teachers. Other Personnel. PROVISIONS FOR EDUCATIONAL MATERIALS AND ENVIRONMENT. Curriculum. Cocurricular Activities. Educational Supplies, Equipment, Sites, and Buildings. Financing of Education. INTERPRETATION OF EDUCATION. Issues in American Education. Glossary. Code of Professional Ethics. Index.

POWER—Education for American Democracy
An Introduction to Education
By EDWARD J. POWER, Boston College. *Cath. Series in Educ.*
415 *pp.*, 6 *x* 9 (1958).....$6.50*c*

This thorough introduction to American public and private education describes education in the United States and shows the evolution of schools, educational systems, and educational thought in America in their relation to the major traditions of education and the larger movement in American life. This book will introduce the student to basic questions and fundamental information in many areas of education and prepare him for later studies. It includes a great deal of material on Catholic schools and colleges not found in other introductory texts.

CONTENTS—Editor's Foreword. Preface. List of Illustrations. EDUCATIONAL IDEALS. Democracy and Education. The Distinctive Features of Education in the United States. ORGANIZATIONS AND ADMINISTRATION OF EDUCATION IN THE UNITED STATES. Local Communities and Education. State School Systems. The Federal Government and Education. EDUCATIONAL PROGRAMS AND TEACHERS. Elementary Education. Secondary Education. Higher Education. Cocurricular Activities and Guidance. Teachers and Their Work. CONTEMPORARY ISSUES AND SPECIAL PROBLEMS. Conflicting Theories of Education. The Role of Religion in Democratic Education. The Dilemma of Democratic Education. Liberal and General Education. Appendix. Index.

RICHEY—Planning for Teaching, 3rd Ed.
By ROBERT W. RICHEY, Indiana Univ. *Found. in Educ.*
640 *pp.*, 6⅜ *x* 9¼ (1963).....$6.95*c*
Correlated filmstrip series—5 motion pictures (B&W).....$5.85

Discusses problems, principles, facts, and attitudes involved in planning a teaching career. Teaching is considered a long-range proposition, not limited to a student's college course. The book does not merely survey the field of education, but builds a professional background in terms of which the student sees the need for studying subsequent professional courses, such as psychology, sociology, methods and curriculum. Includes recent changes, developments, and trends in the teaching profession. Contains suggested questions and resource sections.

CONTENTS—Editor's Introduction. Preface. To the Student. Looking Ahead: Why Teach? Aspects of Planning. Teachers and Their Work. Economic Aspects of Teaching. Our Educational Heritage. Broader Concepts of Education. Nature of Our School System. Glossary. References. Index.

WYNN—Careers in Education
By RICHARD WYNN, University of Pittsburgh. *Found. in Educ. Series.*
307 *pp.*, 5⅜ *x* 8½, *illus.* (1960).....$4.95*c*

This forthright introduction to careers in the field of education realistically and honestly describes the satisfactions and frustrations, the opportunities and limitations of teaching as a profession. The choice of a career, the background of our educational system and the teaching profession, and some of the contemporary issues and forces affecting education and teaching are discussed.

CONTENTS—Preface. Choosing a Career. Our Educational Heritage. Forces and Issues Affecting American Education. Teaching in America. The Work of the Teacher. What Are the Job Opportunities in Education? Teachers' Salaries. Let's Talk about You. Preparation for Teaching. Making the Most of the Years Ahead. Appendix. Index.

BUTTERWORTH AND DAWSON—The Modern Rural School
By J. E. BUTTERWORTH, formerly Cornell University, and H. A. DAWSON, National Education Association. *Series in Educ.*
476 *pp.*, 6 *x* 9, *illus.* (1952).....$7.50*c*

An over-all view of the educational program provided in rural areas is given, so that the American people may see more clearly where effort should be directed for more adequate schools. Thus, the volume deals with the rural school in transition from what it has been to its present status and to what it gives promise of becoming. It discusses the more important social and economic factors that make rural education a distinctive field of public education and that influence the work of rural schools.

CONTENTS—Preface. The Rural School in Transition. Some Social and Economic Backgrounds of Rural Education. An Educational Program for Rural America. Ways and Means of Implementing the Program. List of Visual Aids. Index.

Teaching

MURSELL—Successful Teaching
By JAMES L. MURSELL. Columbia University. *Series in Educ.* Second Edition.
321 *pp.*, 6 *x* 9, 3 *illus.* (1954).....$5.95*c*

A thorough presentation of the psychological principles by which teaching may be made effective. Defines the central practical problem of all teaching as the organization of learning and presents the psychological findings which a teacher should know to organize the learning of pupils in such a way that they will quickly achieve satisfactory results.

CONTENTS—Successful Teaching: Its Meaning. Successful Teaching: Its Problem. Successful Teaching: Its Orientation-controlling Orientation. Successful Teaching: Its Orientation-specific Emphases. Principle of Context and Organization of Learning. Principle of Context and Appraisal of Teaching. Principle of Focalization and Organization of Learning. Principle of Focalization and Appraisal of Teaching. Principle of Socialization and Appraisal of Teaching. Principle of Individualization and Organization of Learning. Principle of Individualization and Appraisal of Teaching. Principle of Sequence and Organization of Learning. Principle of Sequence and Appraisal of Teaching. Principle of Evaluation and Organization of Learning. Principle of Evaluation and Appraisal of Teaching. Synthesis and Application of Principles of Teaching.

BROWN AND THORNTON—College Teaching
By JAMES W. BROWN and JAMES W. THORNTON, JR., both of San Jose State College.
253 *pp.*, 6 *x* 9, *illus.* (1963).....$5.95*c*

This book provides a means of familiarizing both pre-service and in-service college instructors with helpful background information and suggestions designed to improve the quality of their teaching. Practical teaching suggestions are combined with materials intended to aid graduate students in understanding the nature, purposes, and problems of higher education in the United States. The authors consider and interpret recent statistics and publications; discuss recent research in programmed learning; and describe the uses of electronic aids in teaching.

CONTENTS—The Context of Higher Education. The College Instructor. The College Student. The Cur-

riculum of Higher Education. Preparing to Teach. Teaching the Course. Instructional Resources. Evaluating Instruction. Index.

Student Teaching

SCHORLING AND BATCHELDER—Student Teaching in Secondary Schools

By RALEIGH SCHORLING; and HOWARD T. BATCHELDER, Indiana University. *Series in Educ.* Third Edition.

418 *pp.*, 6 *x* 9, 112 *illus.* (1956)....$6.50*c*
Correlated Text-Film Series—seven 16mm sound motion pictures.....$755.00
Five 35mm sound filmstrips.....each $5.00

This book will help student teachers to integrate philosophy, educational psychology, and the curriculum, methods, and needs of public education into a single pattern of knowledge that can be used in planning and guiding the educational experiences of youth in secondary schools.

CONTENTS—List of Text-Films. A Successful Beginning. Learning to Understand Pupils. The Role of the Classroom Teacher in the Total Guidance Program. Discipline as an Aspect of School Morale and Character Education. Principles of Routine and Classroom Management. Teacher and Pupils Plan Together. The Broader Concept of Method. A More Interesting and Challenging School Day. The Slow-learning Pupil. Audio-Visual Aids for the Classroom. Extraclassroom Duties of a Teacher. The Broader Concept of Appraisal. Professional Growth and Personal Advancement. APPENDIX. Growth and Development. Appraising Your Teacher Personality. Questionnaire on Interests and Needs of Pupils in Junior and Senior High Schools. Code of Ethics for Teachers. Index.

WINGO · AND SCHORLING—Elementary School Student Teaching

By G. MAX WINGO, University of Michigan, and RALEIGH SCHORLING. *Curric. & Meth. in Educ. Series.* Third Edition.

348 *pp.*, 6 *x* 9, 50 *illus.* (1961).....$6.95*c*
Correlated Text-Film Series—five motion pictures $485.00

The material in this third edition speaks directly to the student teacher, points up important pedagogical concepts within the context of the classroom situation, and helps bridge the gap between the educational theory discussed in college classrooms and teaching children in elementary schools. The book is a basic professional guide to student teaching, developing a unified learning experience for prospective teachers. At the end of the chapters are selected lists of related readings and questions for discussion. The book includes a review of pertinent ideas related to curricular practices, problems of method and instructional materials, problems with discipline and child guidance, and a look beyond student teaching.

CONTENTS—Preface. A Good Beginning. A Successful Teacher at Work. Individual Differences and Teaching. The Teacher and the Curriculum. Working with Exceptional Children. Managing the Classroom. Teacher and Pupils Plan Together. A Broader Concept of Method. A More Interesting and Challenging School Day. Audio-visual Materials. Three Important Teaching Skills. Discipline. The Guidance of Children. The Broader Concept of Appraisal. The Guidance of Extraclass Activities. Beyond Student Teaching. List of Visual Materials. Index.

Curriculum

PEDDIWELL—The Saber-tooth Curriculum
Including Other Lectures in the History of Paleolithic Education

By J. ABNER PEDDIWELL, as told to RAYMOND WAYNE. With a foreword by HAROLD BENJAMIN, McGraw-Hill Consulting Editor in Education and Ford Foundation Study of Connecticut High Schools.

139 *pp.*, 5 *x* 7½ (1939). *Cloth Edition* $3.90*c*
*McG-H Paperbacks Ed.**

In this little book a fictitious authority on stone-age education presents a series of lectures satirizing educators and education. Professor Peddiwell reports that the three fundamentals taught to youngsters in the paleolithic curriculum were (1) fish-grabbing-with-the-bare-hands, (2) horse-clubbing, and (3) saber-tooth-tiger-scaring-with-fire. When fish became too agile to catch with the bare hands and horses and tigers disappeared, schools nevertheless went on teaching the old fundamentals for their cultural value. The eventual revolt of the progressive educators against the traditional curriculum is described in one of the most entertaining passages in this amusing satire.

** Available only through your local bookstore.*

ROSENBLOOM—Modern Viewpoints in the Curriculum

Edited by PAUL C. ROSENBLOOM, Univ. of Minnesota.

In Press

Distinguished leaders in education, government, and industry discuss the substance of education. A compilation of the 32 papers presented at the National Conference on Curriculum Experimentation, held at the University of Minnesota in the fall of 1961. The areas covered at the conference and in this book include: the relation between curriculum and the economy; research on human learning; current developments in all branches of the natural and social sciences and the humanities; the role of professional societies; the role of private and public agencies supporting experimentation; and the role of government. The discussions focus attention on the substance of education, what is taught in schools, society's stake in the quality of education; and the social mechanics for bringing about the needed improvements. All the papers are supplemented by important reference material on educational projects, proposed legislation, concluding with President Kennedy's message to Congress on educational legislation submitted February, 1962. A summary report is appended.

CONTENTS—The Stake of Society in Education. The Nature of Learning. Current Problems in Various Fields. Experimentation and Evaluation. The Role of Professional Societies. The Role of Supporting Agencies. The Role of Government.

Pre-School and Elementary Education

FOREST—Early Years at School

By ILSE FOREST, Western Reserve University. *Series in Educ.*

381 *pp.*, 6 *x* 9, *illus.* (1949).....$5.95*c*

A college text for the student of education, designed for orientation in the entire field of early childhood education.

CONTENTS—Part I: The Child and His School. Early Childhood Education. The Kindergarten and Educational Progress. The Child from Two to Eight. Establishing Routines in Early School Years. Housing and Equipping the School for Young Children. Part II: The Curriculum in Early Childhood Education. The Curriculum in Early Childhood. Exploring the Natural Environment. Exploring the Social Environment. The Technique of Reading. The Language Arts and Literature. The Arts in Early Childhood Education. Part III: The School as an Agency for Child Guidance. Guiding Personality Development. Records and Reports. The School and the Parent. The Teacher in Early Childhood Education. Appendix: Studying Early Childhood Education at First Hand. Bibliography. Index.

LEAVITT—Nursery-Kindergarten Education

By JEROME E. LEAVITT, Portland State College.

365 *pp.*, 6 *x* 9, 40 *illus.* (1958).....$6.95*c*

Treating the various aspects of teaching the young child as a continuing total experience, this volume seeks to orient students, teachers and parents to basic principles and philosophy of the nursery and kindergarten. It develops their competence in curriculum planning and methods in relation to the two to six-year old child and provides specific help in specialized kinds of work with children of this age.

CONTENTS—Preface. Introduction by Jerome E. Leavitt. Education in a Democratic Society by Martha Seeling. Preschools Abroad by Clarice Dechent Wills. Children of Two to Six by J. Frances Huey. The Nursery School Program by Denise Farwell. The Kindergarten Program by J. Frances Huey. Story and Music Time by Anna Beth Brown. Art by Laura R. Fortson. Guiding Play and Physical Activity by Clarice Dechent Wills. Health and Safety by Vivian and Winifred Weedon. Science and Social Science by Denise Farwell. Plant and Equipment by Helen Heffernan. Readiness: Recognized or Developed? by Clarice Dechent Wills. Evaluation by Martha Seeling. The Slow Learners by Ethel B. Waring. The Gifted Child by Ruth Strang. Study Questions. Bibliography. Index.

Secondary Education

BENT AND KRONENBERG—Principles of Secondary Education

By RUDYARD K. BENT, University of Arkansas; and HENRY H. KRONENBERG, University of Arkansas. *Curric. & Meth. in Educ. Series.* Fourth Edition.

438 *pp.*, 6 *x* 9, 26 *illus.* (1961).....$6.95*c*

This edition is designed primarily as a textbook to be used in the courses designated as Principles of Secondary Education, The High School, Secondary Education, or The Secondary School. It is organized to provide for students beginning their professional work a comprehensive picture of the secondary school as it exists in the United States. Useful to teachers in training, this text introduces suggestions and ideas in the light of which active teachers and administrators may evaluate and analyze their present practices. In this edition the large facts and principles have been treated in a way which is both logical and psychological. This revision includes new material based on recent developments in education, and greater emphasis is placed on the development of guiding principles.

CONTENTS—Secondary Education in the United States. Secondary Education in Other Countries. Organization for Secondary Education. The Secondary School Student. Ideals of Universal Secondary Education. Purposes of Secondary Education. Services Performed by the Secondary School. Relation of Elementary to Secondary. Foundations for Continued Education and Adult Life. Encouraging Pupils to Remain in School. The Curriculum. Trends in Curriculum Planning. The Curriculum: General Education. The Curriculum: General Education (continued). The Curriculum-Special Interests: Academic Vocational Education. Guidance and Counseling. Evaluating the Comprehensive High School.

LEE—Principles and Methods of Secondary Education

By JAMES MICHAEL LEE, University of Notre Dame. *Cath. Series in Educ.*

576 *pp.*, 6 *x* 9 (1963).....$7.50*c*

Combines in one volume both principles and methods of education in public and Catholic Secondary Schools. This book is intended primarily for use in Catholic colleges preparing students for teaching in both public and Catholic secondary schools. However it is also very helpful to other types of readers, such as in service teachers and the interested public who wish to know the nature and practices of their community's secondary schools. The book provides a thorough integration of Catholic doctrine with sound pedagogical theory and practice. The Catholic dimension is utilized in the consideration and evaluating of the nation's secondary schools. The book also gives much attention to the many valuable contributions of non-Catholic thinkers and educators.

Higher Education

THE AMERICAN HISTORICAL ASSOCIATION—The Education of Historians in the United States

By DEXTER PERKINS, Chairman, JOHN L. SNELL, Director; and Committee of the American Historical Association. *Carnegie Series in Amer. Educ.*

256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*t*

The book, based on a systematic study using questionnaires, interviews, visits to universities, and published data, is a thorough report on graduate education in history in the United States: major trends since the 1870's; contemporary practice; criticisms and suggestions for change; recent experiments; and prospects for the future (to about 1970). It surveys the supply and demand for college and university teachers of history, characteristics of contemporary graduate students in history and the problems of recruiting them, undergraduate education in history, training for the master's degree, Ph.D. training institutions (faculties and facilities), and methods of doctoral education in history. The book makes many comparisons of training in history and related disciplines. It stresses the preparation of effective history teachers and the improvement and recognition of the teaching function—in conjunction with scholarly training.

CONTENTS—Introduction: As Seen by the Chairman. Do We Need More College Teachers? Graduate Students in History. History in the Colleges. The Master's Degree. Ph.D-Training Institutions. Doctoral Study in History. Major Criticisms of Ph.D. Training. Experiments with Teacher Training and Tightened Programs. Recommendations (by the Committee). APPENDICES. INDEX.

BABBIDGE AND ROSENZWEIG—The Federal Interest in Higher Education

By HOMER D. BABBIDGE, JR., President, University of Connecticut; and ROBERT M. ROSENZWEIG, Assistant to U. S. Commissioner of Education, U. S. Office of Education.

224 *pp.*, 5⅜ *x* 8 (1962).....$5.95*t*

Presents a realistic and authoritative discussion of the background and development of relations between the Federal Government and the higher education community. This book is designed to provoke more extensive and realistic debate about major issues of public policy. It is a candid assessment of limitations of colleges and universities in dealing with the Federal Government, and the Federal Government in dealing with colleges and universities. Its treatment of delicate political issues, such as segregation and Church-State relations, make this book valuable to the well-informed citizen.

CONTENTS—Preface. Historic Federal Interest in Education. The Posture of Government Contemporary Patterns: Programs and Policies. The Big Picture: Congress, Committees and Commissions. The Posture of Higher Education. The Organization of Organiza-

† *Textbook edition available at educational list price.*

tions. The Impact of Federal Programs. The Issues. Chuch-State. Federal Control of Education. Segregation. The Future Dimly Seen.

BERELSON—Graduate Education in the United States

By BERNARD BERELSON, Director of the Bureau of Applied Social Research, Columbia University. *Carnegie Series in Amer. Educ.*

346 *pp.*, 6 *x* 9, *tables* (1960).....$6.95*t*

Revealing the study of graduate work leading to the Ph.D. in American universities, this book points up new interesting conclusions. It shows the functions of various institutions and how well they are performing. The students, their qualities, origins and social background, preparation and motivation are considered as are the problems of recruitment and support. This book also presents an analysis and evaluation of the types of curriculum set up for post-baccalaureate study, the duration of study, the dissertation, the Master's degree, and the final examination. Basic questions are asked and answers are objectively drawn from the data resulting from the study.

CONTENTS—Introduction. The Past: The Pre-history to 1876. The University Revolution: 1876–1900. Consolidation and Standardization: 1900 to World War I. Growth and Diversification: World War I to World War II. Revival and Reappraisal: Since World War II. The Legacy. The Present: The College Teacher Problem. The Question of Policy. The Question of Program. The Question of Numbers. The Problems of Professionalization. Meanings and Alternates. The Institutions: Growth and Changes in the System. The System of Stratification: Its Operation and Effects. The System and the Future. Administration and Organization. Note on Quality Ranking of Institutions. The Students: Their Origins. Their Social Background. Their Motivation. Their Quality. Their Preparation. Their Recruitment. Their Support Summary: Comparison with Law and Medicine. The Program: The Duration of Doctoral Study. The Dissertation. The Master's Degree. Post-doctoral Work. The Foreign Language Requirement. The Final Examination. The Evaluation of Graduate Work. Conclusions and Commentary. Recommendations. Appendix.

CLARK—The Open Door College

A Case Study

By BURTON R. CLARK, University of California, Berkeley. *Carnegie Series in Amer. Educ.*

207 *pp.*, 5½ *x* 8¼ (1960).....$5.95*t*

This book reports the development of San Jose Junior College during its first four years showing why certain orientations and practices emerged and what their consequences were. The study suggests that dependency on an unselected student "clientele" is the most salient characteristic of the locally controlled two-year college. This primary fact shapes the way the junior college is organized and defines the kind of administrator and teacher that is most appropriate. The "open door" puts the junior college in the business of processing students of diverse ability and interest and presents the major task of convincing most students that they cannot proceed to the four-year college or university. The study also analyzes consequences of locating a junior college within a local school area. This form of control, together with comprehensive student bodies, causes the junior college to assume an orientation similar to the American public high school. The study depicts roles played by the junior college in a system of higher education, especially the role of allowing higher education to be both "democratic" and selective.

CONTENTS—THE ADMINISTRATIVE WEB. THE OPEN DOOR. THE ADAPTATION TO TASK. THE MASS COLLEGE ROLES AND PROBLEMS OF A JUNIOR COLLEGE.

CORSON—Governance of Colleges and Universities

By John J. Corson, McKinsey and Company, Inc. Washington, D.C. *Carnegie Series in Amer. Educ.*

209 *pp.*, 5⅝ *x* 5⅜, *illus.* (1960).....$5.95*t*

This book is an exploratory study concerned with the manner in which the responsibility for making decisions in the operation of a university or college is distributed; in educational and research programs; student affairs; faculty affairs; external relations, i.e. alumni, legislative, and general public relations; finance (current and capital); and physical development. It examines the process or art with which scholars, students, teachers, administrators, trustees, and staff associated together are mobilized in the progressive operation of the institution as a whole, establish and carry out the rules and regulations that minimize conflict, facilitate their collaboration, and preserve individual freedom.

CONTENTS—Acknowledgements. Governing: Its Nature and Significance. The University as an Administrative Enterprise. Roles of University-wide Officers. Roles of the Academic Officers. The Role of Faculties in Governance. The University: A Contrast in Administrative Process. The Ecology of Governance. Institutional Character and Leadership: Their Effect on Governance. Index.

DODDS—The Academic President—Educator or Caretaker?

By HAROLD W. DODDS, President Emeritus, Princeton University. *Carnegie Series in Amer. Educ.*

303 *pp.*, 6 *x* 9 (1962).....$5.95*t*

This significant book provides important reading for the entire academic community and for all others interested in higher education. It fully describes the functions and responsibilities of the academic president. It ponders today's central dilemma—the need for educational leadership versus the burden of other duties—and explores ramifications as they affect staff, faculty, trustees, alumni, and friends of the college. The author suggests means by which the college president may devote not 10 or 20 per cent but *50 per cent* of his time to education. He recommends wide delegation of authority to the administrative staff, stresses the need for better communications between the president and the faculty, analyzes the responsibilities of trustees, and outlines the role of all elements of the academic community in the formulation of a university-wide master plan.

CONTENTS—Preface. The Setting of the Academic Presidency. The President and Academic Leadership. The President and the Art of Administration. The President and the Realm of the Faculty. Building Faculty Personnel. Planning, Fact Finding, Budgeting. The President and Supporting Activities. The Domain of the Trustee. The President at Work With His Trustees. Selection of a New President.

FIELDS—The Community College Movement

By RALPH R. FIELDS, Columbia University. *Admin. in Educ. Series.*

384 *pp.*, 5½ *x* 8¼, *illus.* (1962)....$6.95*c*

The book presents both the historical and the contemporary picture of the community college as well as indicating the vitality and meaning of its future development. The book begins with the development of the two-year junior college and its transition into a truly community college. This is followed by a full description of four active community colleges, their communities, their administrative organizations, the students, the faculty, the instruc-

tional program, guidance services and student activities.

CONTENTS—Preface. List of Tables. List of Charts. Introduction. The Junior College Movement. Characteristics of the Community College. Orange County Community College. Long Beach City College. The Junior College of Connecticut of the University of Bridgeport. Tyler Junior College. Community Junior Colleges: A Portrait. Who Should Go to Community College? What Vocational Education Should the Community College Offer? Community Colleges Face the Future.

GLENNY—Autonomy of Public Colleges

The Challenge of Coordination

By LYMAN A. GLENNY, Sacramento State College. *Carnegie Series in Amer. Educ.*

325 *pp.*, 6 *x* 9 (1959).....$7.95*i*

Under a program initiated by the Carnegie Corporation and set up as the Center for the Study of Higher Education at the University of California at Berkeley, Lyman Glenny, with a group of associates, has made an exhaustive study of each type of formal coordinating structure of higher education used in the United States: recognized boards for coordination of higher education, their staff and their relationship to institutions under their control; state executive agencies (including those for budget, purchasing, civil service, and public works); the legislative and its staff agencies. Rather than serving as a model system of coordination or as a handbook, the book analyzes various data for an understanding of the problem.

CONTENTS—Foreword. Preface. Introduction. DEVELOPMENT AND ORGANIZATION. Development of Coordination. Legal Basis and Organization of Central Agencies of Coordination. FUNCTIONS OF AGENCIES. Planning and Policy Making. Function and Program Allocation. Budgeting Institutional Operations. Budgeting Capital-outlay Projects. EVALUATION. Interrelationships of the Central Agencies. Diversity or Standardization. Coordinating Agencies or Governing Agencies. Voluntary or Formal Agencies of Coordination. Conclusions. Appendix A. Legal Provisions Establishing Coordinated Systems. Appendix B. Powers and Duties of Chancellors in Oregon and Georgia. Bibliography. Index.

HARRIS—Higher Education

Resources and Finance

By SEYMOUR L. HARRIS, Harvard University.

752 *pp.*, 6 *x* 9, *illus.* (1962).....$9.95*t*

This book covers almost every phase of the economics of higher education in terms of specific problems that arise for various kinds of institutions as well as in terms of the general problems.

It contains a thorough discussion of the problem of how to price higher education, contributions that loan finance may make to this kind of pricing, and the significance and contribution of scholarships. There is an extended discussion of the economies and how to achieve them and the manner of contribution by government. It includes discussions of what state governments have done, how endowment funds are managed and the most effective ways of increasing the returns on endowment both in terms of investment policy and accounting principles.

CONTENTS—Introductory. Pricing. Scholarships. Loans. Government Contributions. Management of Productive Funds. Costs and Economies. Faculty.

HENNINGER—The Technical Institute in America

By ROSS G. HENNINGER, Ohio College of Applied Science.

288 *pp.*, 5⅜ *x* 8, 7 *illus.* (1959).....$6.00*t*

Of interest to educators and administrators in technical, engineering, and industrial training, this new study presents a significant record and analysis of developments in technical institute education today and pictures potentialities. The book, sponsored by the ASEE under a grant from the Carnegie Corp., is the result of an extensive survey designed to collect and correlate facts, opinions and philosophies reflecting the present status and trends in the education of engineering technicians and other types of scientific and technological supporting personnel.

CONTENTS—The Technical Institute in Higher Education. Philosophy and Objectives of the Technical Institute. The Technical Institute Curriculum. The Technical Institute Student Body. The Technical Institute Faculty. The Technical Institute Physical Plant. The Administrative Pattern of the Technical Institute. The Financial Structure of the Technical Institute. The Engineering Technician and His Employment. Problems and Potentialities of the Technical Institute. Appendixes. Participation in Field Survey. Typical Occupational Opportunities as Related to Curricular Technology Areas. Typical Technical Institute Curriculums and Related Course Descriptions. Comparison of Emphasis in Major Division of Subject Matter for Various Typical Curriculums. Check List of Criteria for Identifying Technical Jobs. Data from Follow-up Surveys of Graduates of Typical Technical Institute Curriculums. Technical Institute Programs Accredited by the Engineer's Council for Professional Development.

HILL—The Small College Meets the Challenge

The Story of CASC

By ALFRED T. HILL, Council for the Advancement of Small Colleges.

215 *pp.*, 5½ *x* 8½ (1959).....$5.50*t*

Sponsored by the Council for the Advancement of Small Colleges, this book describes and promotes the educational potential of the small college and more specifically, the colleges which have banded together to form CASC. This is the story of a particular group of 65 small colleges which were organized three years ago to improve their own educational programs, increase their financial support, achieve regional accreditation, and improve their visibility on a national scale. The book approaches these colleges from two points of view, collectively as a group and individually as separate institutions. Included in the book is a DIRECTORY OF 65 SMALL COLLEGES, giving such information as geographic location, age of institution, type of control, size of enrollment, tuition costs, student aid, and requirements for admission.

McCONNELL—A General Pattern for American Public Higher Education

By T. R. MCCONNELL, University of California, Berkeley. *Carnegie Series in Amer. Educ.*

275 *pp.*, 6 *x* 9, 2 *illus.* (1962).....$4.95*t*

The purpose of this volume is to explore the pattern of institutions through which a state may provide for the higher education of its heterogenous student population and for the diverse demands which the American people make on their colleges and universities. The book concentrates on (1) the student body of American higher education, with emphasis on diversity of student characteristics—among and within colleges and universities—in general scholastic aptitude, attitudes, values, and intellectual dispositions or styles; (2) the junior college as a great sorting-out and distributive agency, as well as a means of widening educational opportunity and of absorbing much of the shock of the impending deluge of students; and (3) the state-wide coordination of public higher education.

CONTENTS—Preface. Introduction. The Future Selectivity of American Higher Education. The Diverse Student Body of American Higher Education. Ameri-

can Society Requires Training in Depth. Distinctiveness and Differentiation or Duplication? The Primacy of the University. The Constructive Role of Coordination. The Individual Student and the System. Index.

MEDSKER—The Junior College
Progress and Prospect
By LELAND L. MEDSKER, University of California, Berkeley. *Carnegie Series in Amer. Educ.*
367 *pp.*, 5½ *x* 8⅝, 22 *tables* (1960)..$6.95*c*

Here is a fresh look at the role of the public two-year college . . . a penetrating analysis of the functions these institutions are performing and how adequately, what patterns of control, finance and administration most effectively enable them to fulfill their functions, the relationship to other segments of higher education, and identification of the problems they will encounter within the next decade. Everything, pro and con, is covered in this revealing study, making it a graphic and suggestive guide to the most pressing current problems of education.

CONTENTS—Foreword. Introduction. 1. Realization, Expectation, and Examination. 2. The Junior College Student. 3. An Educational Program with Many Purposes. 4. The Transfer and Terminal Functions. 5. Performance and Retention of Transfer Students. 6. Student Personnel Services in Two-year Institutions. 7. Faculty Attitudes on the Role of the Two-year College. 8. The Two-year College in the Various States: Its Development, Financing, and Problems. 9. The Next Ten Years.

MILLET—The Academic Community
An Essay on Organization
By JOHN D. MILLETT, President, Miami University, Ohio.
275 *pp.*, 6 *x* 9 (1962).....$5.95*t*

The prevailing concept of organization in the United States is based upon the principle of hierarchy. This volume asserts that this principle is not applicable to colleges or universities. The organization of the academic community is based upon a distribution of power, and the operation of a college or university depends upon consensus among four basic power groups—the faculty, students, alumni, and administration. A great deal of attention has been given to college and university organization in the past two decades. The expansion of enrollment, the enlargement of the activities, the continuing financial difficulties of higher education have encouraged some to believe that improved organization might help solve these problems. With this in mind, the author presents a realistic picture of the academic community in operation.

CONTENTS—Preface. Organization and Higher Education. Higher Education as an Institution. Faculty. Students. Alumni. Administration. Conflict and Consensus. Index.

PIERSON—The Education of American Businessmen
A Study of University-College Programs in Business Administration
By FRANK C. PIERSON, Swarthmore College and others. *Carnegie Series in Amer. Educ.*
731 *pp.*, 6 *x* 9, 10 *illus.* (1959).....$8.50*t*

This study seeks the answers to three questions: (1) What principles should underlie academic preparation for careers in business? (2) How does present practice at undergraduate and graduate business schools, in company training programs, engineering schools, liberal arts colleges compare with these principles? (3) What steps can be taken to strengthen the work at these institutions? Parts I and II develop a general framework for analyzing the present status of undergraduate and graduate business school programs. The last two parts examine different aspects of the field in more detail. The discussions draw on a wide range of background materials, experience in other branches of higher education, historical trends in business education, student characteristics and attitudes, and employer practices and viewpoints. The review of existing business school programs is based on a detailed questionnaire circulated among business schools and business departments at all accredited institutions of higher education and on a series of intensive follow-up interviews at 75 business schools in all parts of the country.

RUML AND MORRISON—Memo to a College Trustee
A Report on the Financial and Structural Problems of the Liberal College
By BEARDSLEY RUML and DONALD H. MORRISON.
112 *pp.*, 5⅜ *x* 8 (1959).....$2.95*td*

An original, forceful and provocative commentary on the major problems facing a key segment of our national educational system. Here Beardsley Ruml analyzes a variety of significant difficulties besetting trustees of independent colleges and gives constructive advice on how these problems must be solved. Donald H. Morrison discusses pungently some of the practical problems involving the college faculty and administration.

SEVERINGHAUS, CARMAN, AND CADBURY—Preparation for Medical Education
A Restudy
By AURA E. SEVERINGHAUS, Ph.D., Columbia University; HARRY J. CARMAN, Ph.D., Dean Emeritus of the College, Columbia University; and WILLIAM E. CADBURY, JR., Ph.D., Dean, Haverford College.
404 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961)....$7.95*m*

A comprehensive study and evaluation of the role of the liberal arts college in preparing students for medical school, this work reports the results of the second National Buck Hill Falls Conference on this subject. The importance of a liberal arts education as preparation for medical or any other profession is stressed, and the role of the secondary school in preparing students for such training is considered. Because much of the material of the first National Conference was of importance to this second study, six chapters of the original report are reprinted here. Many facets of the original study were repeated to determine what had taken place in the participating colleges in intervening years, and all this is related to the total problem of preprofessional education. The five major topics considered in the restudy are: the Total Educational Span, the Gifted Student, how may he be discovered and best handled; the Culminating Year; Problems on Medical School Admissions; and the Place of the Science in Premedical Education. Although this is essentially a factual report, the authors have not hesitated to comment editorially on topics which seem of particular importance to them.

CONTENTS—1. The Survey: Its Organization, Objectives, Strategy, and Technique. 2. The Premedical Student. 3. The Advisory System. 4. Liaison between College and Medical School. 5. A Balanced Education. 6. The Several Disciplines. Resurvey Report. 7. Findings of the Restudy. 8. The Student Point of View. 9. The Superior Student. 10. The Total Educational Span. 11. The Culminating Year. 12. Science in Preparation for Medicine. 13. Changes in Educational

Patterns and Methods of Instruction. 14. Problems on Medical School Admissions. Appendix. A. Remarks Concerning the Subcommittee on Preprofessional Education. B. A Proposal to the John and Mary R. Markle Foundation for a Survey of Preprofessional Education. C. The Campus Visits. The Questions to Which We Sought Answers. D. The Third Buck Hill Falls Conference.

WEIDNER—The World Role of Universities
By EDWARD W. WEIDNER, University of Hawaii. *Carnegie Series in Amer. Educ.*
384 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962).....$6.95*t*
Here is a careful survey of the world role of universities, as mediums for creating greater understanding among peoples and as emissaries of knowledge. The author uses the exchange programs of American universities to illustrate the problems and challenges this type of undertaking presents to universities throughout the world. The book examines specific exchange programs: American student-abroad programs; a number of religious programs and various kinds of small student and professorial exchanges; research and technical assistance programs which send American professors abroad; and programs which bring foreign students to the United States for specialized training at American universities. Two final chapters include proposals that may be initiated by universities, foundations, and governments. Specific goals and criteria for programs are suggested and a new approach is strongly recommended.
CONTENTS—Preface. Dimensions of the Problem. The Educational Structures of Different Countries. The Professors and Students of Different Countries. American Student-abroad Programs: A Survey. Alternatives in Student-abroad Programs. American Student-abroad Programs: Policy Imperatives. Religious, Research, and Small Exchanges. The Participants: Visitors to United States Universities Under Technical Assistance. The University and Technical Assistance Abroad. Sponsors and Advantages of Technical Assistance Abroad. Formation of Technical Assistance Programs Abroad. Selecting the Technical Assistance Team. Achievements of University Technical Assistance Abroad. Long-term Goals in Technical Assistance Abroad. An Agenda for American Universities. An Agenda for Foundations and Governments. Appendix: Definitions, Research Model, and Procedures. A Bibliographical Note. Index.

Driver Education

AMERICAN AUTOMOBILE ASSOCIATION—Sportsmanlike Driving
By the DRIVER EDUCATION EXPERTS OF THE AMERICAN AUTOMOBILE ASSOCIATION. Fourth Edition.
384 *pp.*, 7¼ *x* 9¼ (1961).....$4.36*s*
12 filmstrips.....per set $45.00
This new edition has been developed from the widely used Third Edition of Sportsmanlike Driving. It has a completely new format and is brought up to date by including the results of recent research on "attitude conditioning." Special color sections are included on the mechanical operation of the automobile and on road signs. There is a new section on freeway driving. *Sportsmanlike Driving* has been recognized for years as the most authoritative book in the field.
CONTENTS—What Driving Means to You. The Psychology of the Driver. The Eyes of the Driver. Physical Fitness and Safety. The Sneak Attack of Alcohol and Drugs. Traffic Laws Made by Nature. Stopping Distances and the Driver. Traffic Laws Made by Man. Observance and Enforcement. Driving in the Country. Driving in Cities and Towns. The Pedestrian and the Driver. Driving on Freeway. Driving under Adverse or Special Conditions. How the Automobile Runs. Taking Care of Your Car. Buying, Insuring, and Operating Your Car. Driving As Your Job. Traffic As You Want It. Before You Start the Engine. Action: Automatic and Gearshift. Maneuvers.

Adult Education

KEMPFER—Adult Education
By HOMER KEMPFER, National Home Study Council. *Series in Educ.*
433 *pp.*, 6 *x* 9, *illus.* (1955).....$6.50*c*
In this practical guide for directors of adult education in public schools and other community agencies, the author summarizes (1) his own wide experience in helping others build up programs of adult education, and (2) research findings, to show program directors how to do their daily jobs better. In addition, the book stresses the changing nature of adult education and its potential impact on the total educational pattern. It relates adult education to our accelerating science and technology and shows why lifelong learning will and must become a much more important instrument of democracy in the future than it has been in the past.
CONTENTS—PART I. THE TASK OF ADULT EDUCATION. The Expanding Role of Adult Education in Modern Society. The Kind of Adult Education Needed. The Developmental Tasks of Adults. PART II. PROGRAM DEVELOPMENT. Identifying Educational Needs and Interests of Adults. Organized Approaches to Major Areas—Personal Development. Organized Approaches to Major Areas—Citizenship. Organized Approaches to Major Areas—Production and Consumption. Program Services to Community Organizations. Working with Unorganized Autonomous Groups. Special Approaches. PART III. PROBLEMS OF ORGANIZATION AND ADMINISTRATION. Local Organization for Adult Education. Selection and Development of Leaders. Publicity and Promotion. Finance. Over-all Program Evaluation. Index.

Audio-Visual Education

BROWN, LEWIS, AND HARCLEROAD—A-V Instruction, 2nd Ed.
Materials and Methods
By JAMES W. BROWN and RICHARD B. LEWIS, both of San Jose State College; and FRED F. HARCLEROAD, California State College. *Found. in Educ.*
In Press
Correlated Text-Film Series—4 motion pictures—color $800.00
—black & white.....$420.00
Emphasizes practical information about the use of instructional materials to plan and carry out learning activities. The book will help teachers make practical decisions as to what to use, when to use, and how to use various media—singly or in combination—to achieve desired educational results. Designed in a 2½ column for flexibility in visual displays. Contains color illustrations. Revision includes material on programmed learning, recent developments in TV self-instruction and Trump plan; research about textbooks.

DIAMOND—A Guide to Instructional Television
Edited by ROBERT M. DIAMOND, Univ. of Miami.
In Press
Educators using television in its many forms and formats discuss its scope and limitations. The book answers those basic questions asked before money is spent on equipment or a television project is designed. Chapters highlight examples of television as it is now used, problems faced, rationale for use of the medium, and how it was used and with what results. Designed for administrators, teachers, communication specialists, students and laymen exploring the potential or expanded use of instructional television and useful as a basic text in the mass media.

MINOR—Simplified Techniques for Preparing Visual Materials

By ED MINOR, Federal Advance Teacher's College, Lagos, Nigeria.

136 *pp.*, 8½ *x* 11, 675 *illus.* (1962)..$3.75*c*

This self-contained and simplified manual fills the need for a single publication covering all basic techniques necessary for the preparation of visual instructional materials. Written to serve both the professional and the person without specific skills in the field, it provides a ready source of new and basic methods and includes a comprehensive listing of related publications, equipment, materials, and visual aids.

CONTENTS—Mounting, Lettering, Visuals, Color and Texture, Photographic and Non-photographic Transparencies.

Dictionary of Education

GOOD—Dictionary of Education

Edited by CARTER V. GOOD, University of Cincinnati. With the assistance of WINIFRED R. MERKEL. Prepared under the Auspices of Phi Delta Kappa. *Found. in Educ. Series.* Second Edition.

676 *pp.*, 6 *x* 9 (1959).....$10.75*r*

Designed to clarify the concepts and terminology employed in educational writing, speaking, and teaching, this dictionary is concerned with technical and professional terms and concepts in the entire area of education. This second edition is a revision and expansion of the only comprehensive dictionary of professional terms in education for educational workers and teachers.

Teaching Machines and Programmed Materials

FRY—Teaching Machines and Programmed Instruction

An Introduction to Autoinstruction

By EDWARD FRY, Loyola University, Los Angeles.

256 *pp.*, 6 *x* 9, 32 *illus.* (1963).....$5.95*c*

This text describes, pictures, classifies and explains all major types of teaching machines. A detailed description is given of how to write, evaluate, and utilize programs. There are samples of various types of programming together with comments on programming from many major leaders in the field plus the author's own summary and synthesis of programmed ideas.

The book then goes on to describe, discuss, and cite research when available in a number of other practical and theoretical considerations often overlooked in the field, such as cost, requirements of teachers, place of programs in the entire educational system, lesson length, and amount of repetition required.

CONTENTS—Introduction. Development of Teaching Machines. Programming Developments. Organization and Content. Presentation Variables. An Item. Inter Item Considerations. Non Program Variables. Measurement and Goals. Summary and Conclusions.

Programmed Texts

BEHAVIORAL RESEARCH LABORATORIES —The American Economics Series

This seven-book programmed series introduces students to economic theory which serves as a background in understanding the U. S. economy. Applies these analytical tools to a broad range of policy problems. Reflects the recommendations of the National Task Force in Economic Education.

The Free Enterprise System

By KEITH G. LUMSDEN.

274 *pp.*, 8½ *x* 11 (1963).....$3.20*s*

The Gross National Product

By KEITH G. LUMSDEN.

In Press

Problems of Economic Stability and Growth

By RICHARD E. ATTIYEH.

In Press

The Federal Reserve System and Its Effect on Money and Banking

By SAMUEL WEINER.

In Press

Taxes and Government Spending

By RICHARD E. ATTIYEH.

In Press

International Trade

By KEITH G. LUMSDEN.

In Press

Capitalism, Communism, and Socialism

By RICHARD E. ATTIYEH.

In Press

BRENDEL AND NEAR—Spelling Drills and Exercises

Programmed for the Typewriter

By LEROY BRENDEL, West Hempstead High School, New York; and DORIS NEAR, West Islip High School, New York.

In Press

Using techniques of programmed instruction—instant reinforcement of learning and systematic development of material—this spelling book presents a thorough review of basic spelling principles together with a thorough drill on commonly used words governed by each of the principles.

COLMAN AND SMALLWOOD—Computer Language

An Autoinstructional Introduction to Fortran

By HARRY L. COLMAN, Armour Research Foundation; and CLARENCE P. SMALLWOOD, Western Data Processing Center, University of California, Los Angeles.

224 *pp.*, 9 *x* 6 (1962).....$5.95*t*†

This autoinstructional program teaches the basic principles of Fortran programming to students with little or no background in the field. It is to be used as a general guide for the beginner in Fortran and is applicable to almost all types of computer installations. This program differs from the traditional autoinstructional programming approach in that it does not ask the student to respond to every unit of information; it breaks the

† *Textbook edition available at educational list price.*

material into sequences of distinct visual units and asks for answers to questions at various intervals in the program.

CONTENTS—Directions for Readers. Introduction. Program Structure. Variables and Constants. Input Statements. Arithmetic Expressions. Arithmetic Statements. Control Statements. Output Statements. Answers for Exercises. Reference Manual. Index. Fortran Coding Sheets.

COOVER AND HELSEL—Programmed Blueprint Reading

By SHIRVER L. COOVER and JAY D. HELSEL, both of California State College, California, Pa.

In Press

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EARL—Groups and Fields

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By BOYD EARL, Wilkes College, edited by WENDELL SMITH and J. WILLIAM MOORE, Bucknell University. *Modern Math Series.*

334 *pp.*, 6 *x* 9 (1963).....$5.95*t*

Soft-cover Ed. $3.95*c*

A series of self-instructional modern mathematics programs requiring an average of twenty-eight hours for student completion and covering these topics: a review of ordered pairs, definitions of a binary relation in which many examples and non-examples from algebra, geometry, set theory are used in discussing the reflexive, symmetric, and transitive properties of a binary relation, equivalence relations; a review of functions, permutation of degree N and a definition of a permutation multiplication.

EARL—Introduction to Probability

A Programmed Unit in Modern Algebra

By BOYD EARL, Wilkes College. Edited by WENDELL I. SMITH and J. WILLIAM MOORE, both of Bucknell University.

257 *pp.*, 6 *x* 9, *illus.* (1963).....$5.95*t*

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This self-instructional program introduces to the student an important branch of mathematics with which he might otherwise not come in contact until his junior or senior year in college, and provides an excellent example of the use of sets and operations on sets. An informal discussion of simple experiments and events is used to lead to a definition of a finite sample space and an event as a subset of the sample space. Non-symmetric examples are used and events where a priori assignments of probabilities would be impossible are discussed.

CONTENTS—Frequency and Relative Frequency. Sample Spaces, Events, and Preliminary Notions about Probability. Complementary Events and Review. Combinations of Events and Computation of their Probabilities: Intersection of Events and Conditioned Probabilities; Dependent and Independent Events; Review and Further Discussion of Sample Spaces, with Emphasis on Independent Events; Union of Events; Review. Binominal Distribution. Permutations and Combinations. Review.

HOLLAND AND SKINNER—The Analysis of Behavior

A Program for Self-Instruction

By JAMES G. HOLLAND and B. F. SKINNER, Harvard University.

337 *pp.*, 6 *x* 9, *illus.* (1961).....$5.95*t*†

8½ *x* 11 loose-sheet version (for use in the KONCEPT-O-GRAPH and other machines) $9.95*c*

This text provides a program for self-instruction for the beginning psychology student, covering simple operant conditioning, shaping or response differentiation, operant discrimination, schedules of reinforcement, classical or Pavlovian conditioning, aversive control, and motivation and emotion as analyzed in this operant framework. It may be used independently or with established texts, but the program stands entirely on its own, and requires no supplementation by lectures or other texts. It also provides a model for persons interested in programming other subject matters.

CONTENTS—Preface. PART I—REFLEX BEHAVIOR. Simple Reflexes. Conditioned Reflexes (Beginning). Conditioned Reflexes (Continued). Pavlov's Experiments. Conditioned Reflexes (Continued). Response Mechanisms. PART II—OPERANT CONDITIONING: ELEMENTARY CONCEPTS. Introduction to Operant Conditioning. The Standard Experimental Situation. Positive and Negative Reinforcement. Basic Concepts Applied. Conditioned Reinforcers. PART III—OPERANT CONDITIONING: PRECISE CONTINGENCIES. The Cumulative Recorder. Factors Affecting Speed of Conditioning. Accidental Contingencies and Superstitious Behavior. PART IV—SHAPING. Principles of Shaping New Behavior. Applications of Principles of Shaping. REVIEW. PART V—INTERMITTENT REINFORCEMENT. Schedules Defined: Fixed-Interval Schedules. Variable-Interval. Fixed-Ratio, and Variable-Ratio Schedules. Schedules of Reinforcement: Summary and Review. PART VI—STIMULUS CONTROL. Stimulus Discrimination. Stimulus Generalization. Chaining. Shaping Continuous Repertoires. Discrete and Continuous Repertoires. PART VII—DEPRIVATION. Basic Concepts. Generalized Reinforcers. Feeding Cycles. REVIEW. PART VIII—EMOTION I. Activation Syndrome. Predispositions in Emotion. PART IX—AVOIDANCE AND ESCAPE BEHAVIOR. Basic Concepts. Analysis of Examples of Avoidance and Escape. Avoidance Experiments. PART X—EMOTION II. Experiments on Anxiety. Emotions as Reinforcing and Aversive Conditions. PART XI—PUNISHMENT. Basic Concepts. Effects of Punishment During the Extinction of Reinforced Behavior. Additional Effects of Punishment Functions of the Aversive Stimulus. Effects of Continuous Punishment. REVIEW. PART XII—SCIENTIFIC ANALYSIS AND THE INTERPRETATION OF COMPLEX CASES. Goals and Techniques of Science. Multiple Effects. Multiple Causes and Conflicting Responses. A Problem in Behavioral Engineering. PART XIII—SELF-CONTROL. Analysis of "Voluntary" and "Involuntary" Behavior. Techniques of Self-Control. Inadequate Self-Knowledge. Rationalization. Drug Addiction. Aggressiveness, Withdrawal and Reaction Formation. Psychotherapy. REVIEW.

HUFFMAN—Programmed Business Mathematics

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By HARRY HUFFMAN, Virginia Polytechnic Institute. Prepared with the assistance of STUART MARGULIES, Ph.D., Programming Specialist, and The Center for Programmed Instruction.

Each text, 8½ *x* 11 (1962)

† *Textbook edition available at educational list price.*

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LIEBERMAN—Programmed Mathematics

By JOSEPH LIEBERMAN, Hartsdale, Public Schools, Hartsdale N.Y.

In Press

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The program stresses the man-made nature of standards and measurement, and shows the student that measurement systems can fit any need he may have.

Estimation. 226 frames.
This programmed unit demonstrates to the student the necessity to understand approximation and estimation methods, and teaches him these quick and accurate skills. It introduces the use of these methods in every area of mathematics.

McCOLLOUGH AND VAN ATTA—Statistical Concepts

A Program for Self-Instruction

By CELESTE MCCOLLOUGH and LOCHE VAN ATTA, both of Oberlin College.

320 *pp.*, 6⅜ *x* 9¼, 100 *illus.* (1963)..$5.95*t*
Soft-cover Ed. $3.95*c*

This program was initially developed as part of a Ford Foundation research project in teaching machines and programmed instruction at Oberlin College. The sequence of lessons, as well as the sequence of items within each lesson, has been designed to lead the student step by step from one concept to another. Most lessons require approximately one hour for completion; the entire program requires an average of 20 hours. The emphasis is on the development of an understanding of statistical concepts with a minimum of statistical computation. It is intended for use as a supplement to instruction in those courses where it is important for students to gain an understanding of the elements of statistics, such as the meaning of measures of central tendency, correlation coefficients, levels of significance, sampling procedures, probability and statistical inference.

CONTENTS—PART I: PROBABILITY: Statistical Inference. Random Sampling and Probability Rules. Probability Rules for Clusters of Events. The Factorial Rule. Testing the Null Hypothesis. PART II: STATISTICAL DESCRIPTION: Frequency Distribution. Measures of Central Tendency. Measures of Dispersion. Types of Scores. The Sampling Distribution. The Inference of Population Parameters from Sample Statistics. PART III: TESTS OF SIGNIFICANCE: The Normal Curve and Probability. Significance Tests Using Normal Curve Tables. The t-Test. Chi-square. PART IV: The Rectangular Coordinate System. Graphical Relationships. The Coefficient of Correlation. Uses of the Correlation Coefficient. The Analysis of Variance.

McFADDEN, SMITH, AND MOORE—Sets, Relations, and Functions

A Programmed Unit in Modern Mathematics

By MYRA MCFADDEN. Edited by WENDELL I. SMITH and J. WILLIAM MOORE, all of Bucknell University.

320 *pp.*, 6¼ *x* 9½, 350 *illus.* (1963).$5.95*t*
Soft-cover Edition $3.95*c*

A self-instructional introduction to modern mathematics, requiring an average of 30 hours for student completion. Designed to facilitate the teaching of modern mathematics as a supplement to courses in traditional or modern mathematics courses or combined with the second program in the McGraw-Hill modern mathematics series to form the basis for a semester's work. The topics covered include: the concept of "set" as a unifying concept and practice in the notation as a clear, concise language which is useful in expression and understanding mathematical ideas; Venn diagrams are used extensively to illustrate the operation of sets; examples of formal proofs of theorems are given but the development, as a whole, is informal.

CONTENTS—Preface. The Number System. PART ONE. Sets: I. Sets, Description, and Notation. Description and Membership, Notation, Subsets, Set Universes, Number Universes, Equivalence and Equality of Sets, Self-test I. Summary and Application. II. Operations with Sets. Complementation: Venn Diagrams, Partitions, and Disjoint Sets, Intersection, Union, Self-test II. Properties of Operations with Sets: Associative Property, Commutative Property, Distributive Property, Principle of Duality, De Morgan's Law, Comparison with Operations of Arithmetic, Difference of Two Sets, Summary and Application, Self-test III. III. Equations and Inequalities. Open Sentences and Solution Sets, Graphs of Solution Sets, Set-builder Notation, Properties, Definitions, and Operations for Inequalities, Absolute Value, Square Root and Absolute Value, Self-test IV. IV. Cumulative Summary and Applications. Self-test V. PART TWO. Relations: V. Relations, Ordered Pairs, Graphs of Ordered Pairs, Cartesian Product, Extension of Cartesian Product, U × U × U, Self-test VI, Locus: Graphs, Union and Intersection of Solution Sets, Binary Relations: Graphs, Domain, Range, Distinct Relations of a Cartesian Product, Relations of Elementary Algebra, Self-test VII. PART THREE. Functions: VI. Functions, Description and Representation: Vertical-line Test, Definition, Notation, Domain, Range. Rule of Correspondence, Notation Mapping, Value of the Function, Composition (Composite Function), Self-test VIII. Special Functions: Machine, Postage, Constant, Identity, Bracket, Inverse Functions and Relations, Correspondence: One-to-one Correspondence, Many-to-one, One-to-many, Self-test IX. PART FOUR. General Review and Summary. General Review. Bibliography. Answers to Self-tests, Index.

McGRAW-HILL TECHNICAL MATERIALS AND INFORMATION SERVICES—Program on Effective Business Writing

Prepared by McGRAW-HILL TECHNICAL MATERIAL INFORMATION SERVICES in collaboration with NEW YORK LIFE INSURANCE COMPANY. Robert L. Shurter, Consultant, Case Institute of Technology.

In Press

This linear program will help impart to the student facility with the principles and techniques of effective business letter writing. The program consists of four units covering motivational factors and introductory concepts; clarity as a result of proper grammar; organization of the letter; and the importance of the letter tone. Each section is accompanied by exercises and answers designed to aid the student in applying his newly acquired knowledge.

CONTENTS—PART I: THE IMPORTANCE OF EFFECTIVE LETTERS. Communication Skills in Business. Aims of Effective Business Writing. Guideposts to Better Letters. PART II: CLARITY IN LETTER WRITING. Correct Words and Phrases. Sentence Structure. Conciseness. The Problem of Grammar. PART III: FORCE AND ORGANIZATION. Contributing Feeling in a Letter. Organization. PART IV: TONE. General Information. Words. Personality and Informality. The Public Relations Function. PART V: THE PROBLEM LETTER. Relationship to Tone. Softening the Tone of Problem Letters. The Art of Saying "No."

MITTELSTADT—A Programmed Course in Slide Rule Operation

By W. S. MITTELSTADT, Eastman Kodak Company.

Volume I.....*In Press*
Volume II.....*In Press*

A two volume program teaching the techniques necessary for utilization of the slide rule in computation. It is designed for the student without previous experience with the slide rule. Volume I starts with the parts of the slide rule, describing how to read the rule and solve simple problems in multiplication and division. The C- and D-scales are used. It continues with multiplication and division, introducing the folded scales—CF and DF—and the inverted scales—CI, CIF, and DI. Also covered are per cent and percentage and ratios and proportions. These are special applications of multiplication and division. The second volume will deal with scientific and engineering applications of the slide rule, covering A, B and K scales; log and log log scales, and trigonometric scales.

NEW YORK INSTITUTE OF TECHNOLOGY—A Programmed Course in Basic Electricity

By DR. ALEXANDER SCHURE, Project Director, New York Institute of Technology.

352 *pp.*, 7⅛ *x* 9⅛, 323 *illus.* (1963).$6.95*t*†

The first of three linear or Skinnerian type programmed texts specifically designed for anyone starting the study of electricity and electronics. Provides specific, fundamental information on DC and AC circuits necessary for the training of competent electrical and electronic technicians. The arrangement of the subject matter makes it easy for a teacher or training director to prepare an accompanying outline or study guide to meet special industrial needs. As a programmed text it calls for a minimum of formal guidance when being used. Particularly effective when used in conjunction with a good basic theory text.

CONTENTS—Basic Electricity—DC. Static Electricity. Charges in Motion. Circuit Fundamentals. Power and Series Circuits. Parallel Circuits. Series Parallel Circuit. Voltage Dividers. Magnetism. Further Paracycles of Electromagnetic Induction. Introduction to Generators. Electrical Meters. Basic Electricity—AC. Fundamental Concepts of AC. Inductance. Capacitance. Transformers. Power in AC Circuits. AC Resistive Circuit. RL Circuits. RC Circuits. RCL Circuits. Resonance. Appendix. Capacitor Color Codes.

NEW YORK INSTITUTE OF TECHNOLOGY—A Programmed Course in Basic Electronics

By ALEXANDER SCHURE, Project Director, New York Institute of Technology.

In Press

Covers essential material in a dynamic new format—based on linear or Skinnerian programmed learning. Specifically designed for beginning electronics technicians, the text provides specific, fundamental information on basic electronic circuits, vacuum tubes, amplifiers, oscillators, and superheterodyne principles.

CONTENTS—Electron Emission and Diodes. Circuit Notations. Triodes. Basic Triode Action. Tetrodes. Pentodes. Power. Amplifier Tubes. Power Amplifier Tubes, Amplifier Classes. Audio Coupling and Amplification Controls. Audio Amplifiers. Wide Band Amplifiers. Radio Frequency Amplifiers. Cathode Followers. Oscillation Principles. LC Oscillator Circuits. Crystal Oscillators. Modulation Fundamentals. Detection. Detectors and AVC. Superheterodyne Principles. Superheterodyne Stage Analysis. Basic Power Supplies. Analysis of a Typical Superheterodyne Receiver.

NEW YORK INSTITUTE OF TECHNOLOGY—A Programmed Course in Basic Transistors

By ALEXANDER SCHURE, Project Director, New York Institute of Technology.

In Press

This is the third volume of technician level programmed texts specifically designed for beginning electrical or electronics technicians. This text thoroughly covers semiconductor and transistor fundamentals. It follows the linear or Skinnerian programmed learning format, and represents a comprehensive course that provides the student with a thorough grounding in the transistor field.

CONTENTS—Semiconductor Fundamentals. Transistor Fundamentals. Parameters. Equivalent Circuits and Characteristic Curves. Parameter Calculations. Bias Stabilization. Use of Characteristic Curves and Charts. Audio Amplifiers. Tuned Amplifiers. Wide-band Amplifiers. Oscillators (LC type). Transistor Construction Methods. Reading Transistor Specifications. Transistor Measurements.

SALTZMAN—Writing Russian Script

A Self-Instructional Program

By IRVING J. SALTZMAN, Indiana Univ.

258 *pp.*, 8½ *x* 11 (1963).....$5.95*t*
Soft-cover Ed. $2.95*c*

A self-instructional method of learning how to write Russian script, requiring an average of 10 to 12 hours for completion. After completing the program, a student will know the names and the sequence of the 33 letters in the Russian alphabet; will recognize the printed and script forms of both Russian capitals and small letters; will write both forms of letters; and will connect the letters properly. The frames containing the factual materials, with practice frames omitted, are duplicated and collected at the end of the program. These frames provide a quick review of the material.

† *Textbook edition available at educational list price.*

SCHUSTER—Logical Electronic Troubleshooting

By DONALD H. SCHUSTER, Collins Radio Company, Cedar Rapids, Iowa.

320 *pp.*, 7¼ *x* 4½, 68 *illus.* (1963)..$5.95*t*
Soft-cover Ed. $3.50*c*

Designed to supplement classroom instruction in radio, television, and electronics courses. The text features the branching or Crowderian programming technique as well as a modified linear or Skinnerian format. The author develops the principles and techniques of logical troubleshooting, concentrating on an efficient information-search pattern. In this way, the electronics technician and the radio or television repairman gains the knowledge he needs to analyze malfunctioning systems logically and to correct the trouble rapidly and without guesswork.

CONTENTS—Bracketing Trouble Possibilities. The Information Funnel. Typical Radio Malfunctions. Typical Television Troubles. Applications to Other Systems.

SULLIVAN—A Programmed Introduction to the Game of Chess

By M. W. SULLIVAN.

220 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$6.95*tf*

More than one hundred people actually helped to write this book—people who tested Dr. M. W. Sullivan's programmed course, who learned to play chess, and who helped compile the valuable teaching material presented here. From their combined experiences, every reader can now learn one of the world's oldest and most challenging games, whether as a delightful new hobby, or as a basis for a further study of chess. No previous knowledge of the game is needed, and throughout the entire book the author leads the reader through each phase. Fully illustrated, the process is a masterful introduction to the game, for the alert reader.

WENTWORTH, MONTGOMERY, GOWEN, AND HARRELL—The Accounting Process

A Programmed Text

By GERALD O. WENTWORTH, Stanford Graduate School of Business; A. THOMPSON MONTGOMERY, Management Consultant; JAMES A. GOWEN, Editorial Consultant; and THOMAS W. HARRELL, Stanford Graduate School of Business.

264 *pp.*, 6⅜ *x* 9¼ (1963).....$5.95*t*†

A self-instructional program covering fundamental accounting principles, and requiring an average of 15 hours to complete. It does not require a previous knowledge of the subject. Basic accounting principles, concepts, and terminology, including costing; source documents; final reports; and other outputs are covered. The material focuses on the accounting system as a functional whole and the flow of data through the system, with emphasis on the managerial requirements and benefits derived from the system. The program is useful if one wants bookkeeping drill; but it is flexible enough to allow omission of this material. Contains an extensive indexed glossary with definitions of accounting terms used with common synonyms.

CONTENTS—Introduction. Outputs. Inputs. Major Accounting Responsibilities. Accounting Records. Recording Transactions. Specific Accounting Procedures. Cost Accounting. Adjustments. Review of Entries. Answers to Review Questions. Glossary of Accounting Terms. Illustrative Panels.

SULLIVAN ASSOCIATES—Programmed Astronomy

By NEIL E. SULLIVAN and M. W. SULLIVAN, Sullivan Assoc., Los Altos, Calif.

These two books follow a problem-solving approach to descriptive astronomy and stress actual observation and description of the night sky. They give the student a large body of factual knowledge and help him learn to visualize the motions of heavenly bodies and their relationships.

Programmed Astronomy I—The Solar System

304 *pp.*, 8¼ *x* 11 (1963).....$3.32*s*

CONTENTS—Our Place in the Universe. The Terrestrial Planets. Our Sun and Moon. The Giant Planets. Other Members of the Solar System. Programmed Glossary.

Programmed Astronomy II—The Night Sky

272 *pp.*, 8¼ *x* 11 (1963).....$2.96*s*

CONTENTS—Our Place in the Galaxy. Observing the Heavens. Other Members of the Galaxy. The Expanding Universe. Programmed Glossary.

SULLIVAN ASSOCIATES—Programmed Reading

Pre-Reading Series

By CYNTHIA DEE BUCHANAN and WILLIAM N. SULLIVAN, both of Sullivan Associates, Palo Alto, Calif.

Programmed Pre-reading
108 *pp.*, 8¼ *x* 11 (1963).....$1.48*s*
Programmed Primer
128 *pp.*, 8¼ *x* 11 (1963).....$1.24*s*
Reading Readiness Test. (pkg. of 10).$2.40*s*
Student's Alphabet Cards.....$1.84*s*
Sound-symbol Cards.....$1.80*s*

This is a reading program, based on modern linquistics, designed to lead kindergarten or first-grade children through their first steps in reading. It provides the child with the skills he needs to reach the level of reading readiness: the names of the letters of the alphabet (capital and small), how to print all the capital and small letters, that letters stand for sounds, what sounds to associate with the letters a, f, m, n, p, t, th, and i, that letters are read from left to right, that groups of letters form words, to recognize the words "yes" and "no" by sight and to discriminate between certain simple words. The programmed primer is the student's introduction both to reading and programming.

SULLIVAN ASSOCIATES—Programmed Reading

By CYNTHIA DEE BUCHANAN and WILLIAM N. SULLIVAN, both of Sullivan Associates, Palo Alto, Calif.

Series I
Book 1 (1963).....$1.32*s*
Book 2 (1963).....$1.32*s*
Book 3 (1963).....$1.32*s*
Book 4 (1963).....$1.32*s*
Book 5 (1963).....$1.32*s*
Book 6 (1963).....$1.32*s*
Book 7 (1963).....$1.32*s*
Sound Symbol Cards—(pkg. of 29).$4.20*s*

This programmed reading series gives the beginning reader (at approximately the first grade level) an orderly introduction to the system of sounds in the English language and to the letters that represent these sounds. The texts teach the student to spell and write every word he learns to read. At the end

† *Textbook edition available at educational list price.*

of this series, the child can read and write all the consonants and all the short vowels in all combinations that occur in a basic vocabulary of 500 words, plus their inflected forms.

Teaching Machines

KONCEPT-O-GRAPH

Specifications:
Programmed Material—8½ *x* 11", single sheet, mimeograph or printed page.
Operation—Similar in manner to a mimeograph paper feed. Student turns drive mechanism via small knob with one-way operation. Non-reversible, permitting cheat-proof operation.
Viewing Area—4½" *x* 8½", easily masked to accommodate all linear program formats.
Adaptability—Left or right hand operation. Machine must be ordered in either model.
Response Unit—Will accommodate cash register tape Size "N" (3½" wide) and Size "H" (2½" wide). This response unit is keyed into the main shaft so that response tape parallels program operation. (Included in price of machine.)
Weight—Complete unit weighs 3½ pounds.
Made of non-destructible Royalite.
List Price—$39.00

Education Methods

General Methods

KELNER—How to Teach in the Elementary School

By BERNARD G. KELNER, School District of Philadelphia, Pennsylvania.

343 *pp.*, 6 *x* 9, 57 *illus.* (1958).....$6.50*c*

Provides a clear and comprehensive statement of basic teaching methods in the elementary school. Concrete suggestions are offered covering a variety of topics, from getting a position to evaluation on the job, and important teaching problems are considered in terms of the best in modern theory and illustrated fully by actual classroom experiences. The book should be of value to the student beginning to teach, the beginning teacher seeking help in those critical "first days," the return-to-service teacher wanting to learn of modern procedures, and the veteran teacher anxious to improve his service.

CONTENTS—Preface. List of Photographs. How to Make the Most of an Appointment. How to Survive That First Week. How to Know Your Pupils. How to Plan a Curriculum. How to Develop Class Spirit. How to Help That Problem Child. How to Make an Attractive Classroom. How to Improve Social Behavior. How to Establish the Basic Skills. How to Maintain and Promote Health. How to Encourage the Scientific Attitude. How to Stimulate Interest in the Arts. How to Order and Use Supplies, Furniture, and Equipment. How to Evaluate Growth. How to Work with People. How to Be a Happy Teacher. Appendix: How to Get a Teaching Position. Index.

LEONHARD AND HOUSE—Foundations and Principles of Music Education

By CHARLES LEONHARD, University of Illinois; and ROBERT W. HOUSE, University of Minnesota, Duluth Branch.

365 *pp.*, 5½ *x* 8¼ (1959).....$6.50*c*

A systematic orientation to music education for undergraduate and graduate students in music education, this basic text covers every phase of building and conducting a music program at all educational levels: historical foundations of music education, foundations of musical learning, processes of curriculum construction and other topics. Throughout, the emphasis is upon the development of sound principles in each area of music education. Rather than teaching by areas or grade levels, the authors develop processes for achieving specific goals.

CONTENTS—The Objectives and Processes of Education. The Role of Principles in Music Education. Historical Foundations of Music Education. Philosophical Foundations of Music Education. The Foundations of Musical Learning. Objectives for Music Education. The Music Education Program. Methods of Teaching Music. Administration of the Music Program. Supervision in Music Education. Evaluation in Music Education.

MORT AND VINCENT—Modern Educational Practice

A Handbook for Teachers

By PAUL R. MORT and WILLIAM S. VINCENT, Teachers College, Columbia University. *Series in Educ.*

437 *pp.*, 6 *x* 9 (1950).....$6.50*c*

Designed to give teachers practical leads to modern teaching methods which they may adapt for their own classroom uses. Contains a selected sampling of actual practices used by good teachers to accomplish the many different objectives of education.

CONTENTS—INTRODUCTION: How to Use This Book. PART ONE: Why and How This Book Was Written. PART TWO: A Look at What Good Schools Are Doing. PART THREE: Guide to Modern Educational Practice. Stimulating Situations and Programs. Individual Adjustment Procedure. Pupil Interests. Recreational Interests. Productive Experiences. Laboratory Methods. Pupil Participation. Active Investigation. Cooperative Group Action. Creative Expression. Variety of Experiences. Variety of Materials. Community Resources. Individual Diagnosis. Varied Drill Devices. Remedial and Refresher Teaching. Enriched Teaching. Study Techniques. Coordination with the Home. Coordination with the Community. Staff Participation. Supplement A. Thirty Psychological Guides to Good Teaching. B. Twenty Social Guides to Good Teaching. C. Acknowledgements. D. List of Visual Materials. Index.

STATON—How to Instruct Successfully

Modern Teaching Methods in Adult Education

By THOMAS F. STATON, Huntingdon College.

304 *pp.*, 5⅜ *x* 8, 4 *illus.* (1960)....$6.50*r*†

This book presents theoretical as well as practical aspects of psychology and education. It begins with a discussion of the human factors confronting the instructor, and the psychological principles and concepts underlying successful instruction. Four major methods of instruction are explained, with step-by-step directions for preparing and conducting instruction by each method. A procedure for organizing a mass of information, procedures, and material into a systematic educational program is outlined. Detailed suggestions are given for evaluating students and giving them individual guidance and counseling. The approach throughout is simple and practical. Chapter summaries and suggested readings follow each chapter.

CONTENTS—The Nature of Learning. Psychological Factors Underlying Learning. Applying the Principles of Learning. Planning for Instruction. The Lecture

† *Textbook edition available at educational list price.*

Method. The Demonstration-performance Method. The Group Discussion Method. The Role-playing Method. A System for Conducting Instruction. Instructional Aids. Preparing a Classroom. Measuring Achievement and Performance. Principles and Concepts of Employee Counseling. Employee Counseling as a Training Device. Broadening Your Qualifications as an Instructor. Designing and Administering a Training Program.

THUT AND GERBERICH—Foundations of Method for Secondary Schools

By I. N. THUT and J. RAYMOND GERBERICH, University of Connecticut. *Series in Educ.*

491 *pp.*, 6 *x* 9, 44 *illus.* (1949).....$6.50*c*

A textbook for general secondary school methods courses which relates method to the recent developments in the curriculum area. The book discusses method as a general plan of procedure selected to achieve a distinctive type of educational product, and each of the three major teaching plans found in secondary schools today is described in detail.

CONTENTS—Preface. Some Factors That Affect Secondary-school Teaching: The Purpose of American Secondary Education and Its Implications for Method. The Concept of Pupil Needs and Its Implications for Method. The Secondary-school Pupil. The Organization of the School and the Curriculum. The Current Bases for Appraising Pupil Progress. Methods Used by Secondary-school Teachers Today: The Origin and Theory of the Daily-assignment Method. The Daily-assignment Method in Action. The Appraisal of Pupil Progress in the Daily-assignment Method. The Origin and Theory of the Subject-matter Unit Method. The Subject-matter Unit Method in Action. The Measurement of Pupil Progress in the Subject-matter Unit Method. The Origin and Theory of the Experience Unit Method. The Experience Unit Method in Action. The Evaluation of Pupil Progress in the Experience Unit Method. Some Special Aspects of Secondary-school Teaching. The Teacher and the Emerging Core-curriculum. The Teacher and Comprehensive Pupil Appraisal. The Teacher as a Counselor. The Concept of Discipline as an Aspect of Method. The Teacher Uses Audio-visual Aids. The Professional Growth of the Teacher. Visual Aids. Index.

WELLINGTON AND WELLINGTON—Teaching for Critical Thinking

By C. BURLEIGH WELLINGTON, Tufts University, and JEAN WELLINGTON, Tufts University.

364 *pp.*, 6 *x* 9, 19 *illus.* (1960).....$6.95*c*

This book presents a method by which the aim for critical thinking in education may be developed. Any concept or technique discussed is accompanied by its philosophic or psychological implications. The book gives recent advances which include latest psychological research as well as recognition of the pressures of both the "subject matter" school and the "needs" school.

CONTENTS—A Point of Departure. Problem Solving and Judgment. Adolescents and Adolescence. The Method of Critical Thinking. Intensifying Student Learning. The Discussion Technic. The Multisensory Technic. The Laboratory Technic. The Communications Technic. The Small Group Technic. The Lecture Technic. Planning. Discipline. Evaluation. The Teacher. S.ars for the Student.

Arithmetic and Mathematics

BUTLER AND WREN—The Teaching of Secondary Mathematics

By CHARLES H. BUTLER, Western Michigan University, and F. LYNWOOD WREN, San Fernando Valley State College. *Series in Curric. & Meth. in Educ.* Third Edition.

624 *pp.*, 6 *x* 9, 94 *illus.* (1960).....$7.50*c*

This important revision discusses the content and techniques of instruction in secondary mathematics. The material is concerned with the mathematics programs of grades seven through fourteen. The content reflects important changes in the past ten years as represented in the special reports of various mathematics study groups and commissions. Two of the distinguishing characteristics of this book through its two previous editions have been its extensive lists of exercises and its helpful bibliographies. These features have been maintained and modernized in this third edition.

CONTENTS—Preface. The Evolving Program of Secondary Mathematics. Mathematics in General Education. The Impact of Modern Mathematics. Modern Curriculum Problems in Mathematics. Stimulating and Maintaining Interest in Mathematics. Means to Effective Instruction and Guided Learning. Planning for Effective Teaching and Learning. Evaluation of Instruction. The Professionally Prepared Teacher of Mathematics. Supervision of Instruction. The Teaching of Arithmetic. The Teaching of Further Topics in Arithmetic. The Teaching of Algebra in the Junior High School. The Teaching of Further Topics in Organization of Instructional Material. Art in the Senior High School and the Junior College. Geometry in the Junior High School. The Teaching of Geometry in the Senior High School. The Teaching of Trigonometry. The Teaching of Analytic Geometry. The Teaching of Calculus. Index.

MARKS, PURDY, AND KINNEY—Teaching Arithmetic for Understanding

By JOHN L. MARKS, C. RICHARD PURDY, State College for Alameda Co., Hayward, California; and LUCIEN B. KINNEY, Stanford Univ. *Series in Curric. & Meth. in Educ.*

420 *pp.*, 6 *x* 9, 2073 *illus. plus tables* (1958) $6.95*c*

Workbook $2.90*c*

Techniques for teaching arithmetic are emphasized in this text which was written for preservice and in-service teachers in the first eight grades. At the same time the book covers the basic mathematical ideas that the pupil must acquire, and the background ideas that the teacher needs for a thorough comprehension of arithmetic. Particular attention is given to techniques for appraising pupil progress and appropriate remedial and enrichment experiences. Activities to challenge the fast learner are suggested in every chapter with a special compilation in the chapter on adjusting to individual differences.

CONTENTS—Preface. Why Study Arithmetic? Planning Effective Learning Activities. The Arithmetic Curriculum. Number and Number Systems. Beginning Number Experiences. Addition and Subtraction. Multiplication and Division. Common Fractions. Decimal Fractions. Learning the Language of Per Cent. Measures and Measuring. Learning to Solve Word Problems. Appraising Progress of Pupils. Adjusting to Individuals. Games for Fixing Skills. Selected References. Index.

Business

CLEM—Techniques of Teaching Typewriting

By JANE E. CLEM, Wisconsin State Teacher's College, Whitewater. Second Edition.

384 *pp.*, 6 *x* 9 (1955).....$6.00*bc*

Deals in a concrete and practical way with the underlying principles of typewriting instruction. It incorporates the best thinking expressed in every book and most magazine articles that have been written on the subject of typewriting. The purpose of this volume is to give to teachers and prospective teachers of typewriting the best methods the profession affords and help to make more effective their ideals of instruction.

GREEN—Activities Handbook for Business Teachers, Clubs, Plays, and Projects

By HELEN HINKSON GREEN, Michigan State University.

384 *pp.*, 6 *x* 9, *illus.* (1958).....$6.00*bc*

This is a handbook designed to assist the business teacher with co-curricular activities involving group work, plays, exhibits, and other projects. The book contains ten actual play scripts that the teacher may use for assemblies and other meetings—all involving the world of business. It also contains a valuable section on the professional growth of the business teacher. Of particular interest to school libraries and business teachers, the book is one of the liveliest and informative presentations in its field.

CONTENTS—Introduction. Principles of Organizing and Conducting Extracurricular Activities. PART I. COMMERCIAL CLUBS, THEIR CARE AND FEEDING. Types of Clubs. Procedures for Starting a Club. The Role of the Sponsor. The Club Constitution. Club Programs and Activities. Some Suggested Club Programs. Mix-and-Match Ideas for Your Three-Part Club Program. PART II. BUSINESS PLAYS AND PROGRAMS. Ten Complete Plays. Building Your Own Skits. Radio-and-Television Program Planning. PART III. OTHER ACTIVITIES—COMMUNITY PROJECTS, SCHOOL ANNUALS AND NEWSPAPERS, CONTESTS, AND FIELD TRIPS. Ideas for School and Community Exhibits. If the Yearbook Is Your Baby. Running the School Paper. Contests. Field Trips. PART IV. SPECIAL EVENTS. Selling Your Department to Other Students. Selling Your Department to Outsiders. Conducting Parent's Night. Fund-raising Activities. American Education Week. PART V. THE TEACHER'S PROFESSIONAL ACTIVITIES. Running a Meeting. Directing an Entire Program. Handling a Convention. Your Professional Writing. Your Professional Memberships. Finding a Work-Experience Job. INDEX.

LESLIE—Methods of Teaching Gregg Shorthand

By LOUIS A. LESLIE, Scarsdale, New York. (1953) $6.75*bc*

A thorough treatment of every phase of methods of teaching and testing Gregg Shorthand. Completely treats history of methods and shows their influence upon accepted modern practices.

MUSSELMAN AND HANNA—Teaching Bookkeeping and Accounting

By VERNON A. MUSSELMAN, University of Kentucky, and J. MARSHALL HANNA, Ohio State University.

376 *pp.*, 6 *x* 9, *illus.* (1960).....$6.00*bc*

A methods book in the field of bookkeeping and accounting. Covers the entire accounting cycle and the full range of teaching problems on a practical, down-to-cases level. For the beginners, the authors have singled out typical teaching difficulties, and have specific remedies that really work. For the more experienced teacher, the authors offer new ideas for course improvement and enrichment. Contains numerous illustrations and "case problems."

TONNE—Principles of Business Education

By HERBERT A. TONNE, New York University, New York City. Third Edition.

544 *pp.*, 6 *x* 9, *illus.* (1961).....$6.75*bc*

New text in the Gregg Professional Series for teacher-training classes and the professional library of every business teacher. Contains many new and refined ideas and methods that will bring results today and in the brand new era of business education that lies ahead. Gives helpful suggestions on developing courses of study, curriculum evaluation, vital modern issues, guidance, and many more. Helps both beginning and experienced teachers bring depth, imagination, and perspective to business education.

CONTENTS—Purposes of Business Education. Historical Beginnings and Present Status of Business Education. Relationship to the Total Educational Process. The Fundamental Processes and Business Education. Character Development and Business Education. Nature of Job Training for Business. Organization of Job Training for Business. Changing Occupational Life. Business Occupations. Guidance in Business Education. Standards in Business Education. Work Experience in Business Education. Attitude of Business Toward Business Education. Attitude of Labor Toward Business Education. Learning Process in Business Education. Techniques in Developing Courses of Study. The Business Program in the High School. Training for Bookkeeping Occupations. Training for Stenographic Occupations. Training for Clerical Occupations. Training for Distributive Occupations. Social-Business Education. Business Education in the Small High School. The Junior High School Business Program. The Private Business School. The Collegiate School of Business. Junior College Business Education. Special Institutions Offering Training for Business. On-the-job Training for Business. Business Teacher Education. Administration and Supervision of Business Education. Curriculum Evaluation.

TONNE, POPHAM, AND FREEMAN—Methods of Teaching Business Subjects

By HERBERT A. TONNE, New York University, ESTELLE L. POPHAM, Hunter College, and M. HERBERT FREEMAN, Montclair State College, Montclair, N.J. Second Edition.

448 *pp.*, 6 *x* 9 (1957).....$6.25*bc*

A comprehensive treatment of teaching methods in all fields of business education. Includes (1) general pattern and criteria of good teaching in *any* business subject, then (2) application of that pattern and criteria for teaching *each* business subject. Meets practical needs through presentation of a unified concept of business-teaching methods.

Language

OGILVIE—Speech in the Elementary School

By MARDEL OGILVIE, Queens College. *Series in Speech.*

318 *pp.*, 6 *x* 9, 22 *illus.* (1954).....$5.75*c*

Treats all the oral activities of the elementary grades. Particularly distinguished are the activity projects offered by the author which will prove attractive to child and teacher alike. The recognition and therapy of speech difficulties are also presented. The purposes of the book are 1) to suggest ways to promote effective communication in the elementary school classroom; 2) to indicate the speaking activities that are part of the language arts program; and 3) to note the part the classroom teacher plays in improving the child's speech.

CONTENTS—Guides for Teaching Speech in the Elementary School. Dramatics. Puppetry. Oral Reading. Choral Speaking. Informal Speaking Situations. Giving Talks. Discussion. Conducting a Meeting. Assemblies. The Role of the Classroom Teacher in the Correction of Speech Difficulties. Improving the Voice and Diction of the Child. Appendix.

TIDYMAN AND BUTTERFIELD—Teaching the Language Arts

By WILLARD F. TIDYMAN, Professor Emeritus, Fresno State College; and MARGUERITE BUTTERFIELD, State University College of Education, Potsdam, New York. Second Edition.

403 *pp.*, 6 *x* 9, 38 *illus.* (1959).....$6.75*c*

A thorough revision, this methods text focuses on work in the elementary grades from kindergarten through eighth grade, although many references are made to work at higher grade levels. Primary emphasis is placed on language experiences consistent with a functional approach to teaching language. However, specific attention is given to the contributing ability and skill phases, such as work in sentences, usage, and mechanics of speaking and writing. There are numerous examples of teachers' procedures and children's work, as well as ex-

amples showing relation of work in language to other subjects. Throughout, the emphasis is on practicability and usefulness, combined with a thorough presentation of basic principles and purposes underlying practice.
CONTENTS—Preface. Language Teaching, Then and Now. Experiences, Abilities, and Skills. Oral Communication and Listening. Written Communication. Dramatization and Choral Speaking. Creative Experiences. Giving Information. Study and Research. Attitudes, Content, and Organization. Vocabulary and Sentences. Usage and Grammar. Speech. Form and Mechanics in Written Work. Spelling. Handwriting. Language in an Integrated Program. Grade Goals and Sequences. Planning a Program of Work for a Class. Principles and Processes.

TRAUGER—Language Arts in Elementary Schools
By WILMER TRAUGER, State Univ. College at Potsdam, New York.
384 *pp.*, 6 *x* 9, *illus.* (1963).....$6.95*c*
Directed towards present and prospective elementary school teachers, this methods book recommends what should be taught, exclusive of reading, in the language arts in the elementary grades, and describes ways of teaching that material. Reading is examined only in connection with speech, punctuation, and literature. The book introduces the student to the nature of modern linguistics and explains how he can use the findings of linguistics to improve instruction in language usage, grammar, spelling, and punctuation. Coordinated with the material is developed knowledge relating to the nature and structure of language. All main chapters contain sections on audio-visual aids and show how the language arts teacher can profitably use these facilities in instruction. Teachers of language, music, and visual arts are shown ways in which they can coordinate their efforts.
CONTENTS—The Language Art Galaxy. Communication. Language. Literature.

Music

ELLISON—Music with Children
By ALFRED ELLISON, New York University.
294 *pp.*, 5⅝ *x* 8⅜, 43 *illus.* (1959)..$5.95*c*
Presents a basic music program for the elementary school. Based on the developmental point of view, the music program suggested emerges from the total framework of modern conceptions of children's growth and development, and the contributions that music as a specific area of curriculum activity can make to fulfil children's total growth potential. The author makes specific suggestions for desirable activities that are possible in the typical classroom situation: singing, movement and music, playing music, listening to music and creating music.
CONTENTS—Preface. Teaching Music. Clearing the Air for Singing. Singing. Movement and Music. Playing Music. Making Instruments. Listening. Creative Music. Reaching Our Objectives. Appendix.

Reading

BROOM, DUNCAN, EMIG, AND STUEBER—Effective Reading Instruction in the Elementary School
By M. E. BROOM, Southern College of Optometry, MARY ALICE ALLEN DUNCAN, Honolulu, Hawaii, DOROTHY EMIG, Houston School, El Paso, Texas, and JOSEPHINE STUEBER, New York State College for Teachers, Buffalo, New York. *Series in Educ.* Second Edition.
499 *pp.*, 6 *x* 9, 78 *illus.* (1951).....$6.95*c*
This book is intended to serve as a guide to classroom teachers of reading and to students in teacher-training institutions. The authors present the pertinent theory needed by teachers of reading together with practical information about techniques and materials of instruction that will aid in producing better readers among pupils in the elementary schools.
CONTENTS—Introduction: The Significance of Reading. The Reading Task. The Vocabulary Problem in the Elementary Grades. Reading Readiness. Oral and Silent Reading in Grades Two and Three. The Problem of Oral and Silent Reading in Grades Four through Eight. A Program of Oral and Silent Reading in Grades Four through Eight. A Program for Reading Instruction in Grades Four through Eight. Oral Reading in Grades Four through Eight. Silent Work-study Reading in Grades Four through Eight. Silent Recreational Reading. Measurement in the Reading Instructional Program. Diagnostic and Corrective Practices in Reading in the Elementary School. Index.

LEEDY—Read with Speed and Precision
By PAUL D. LEEDY, The American Univ.
416 *pp.*, 6 *x* 9 (1963).....$7.95*tz*
Soft-cover Ed. $4.50*c*
Offers sound techniques to help the student read with fuller understanding, greater speed, and more precise comprehension. Situations that cause difficulty are emphasized and a selection of modern readings and study aids show the student how to attain greater speed and precision in reading.
CONTENTS—LEARN THE BASIC TECHNIQUES. The Paragraph. The Chapter. The Book. Reading the Assignment. Reading in the Library. Reading Graphic Presentations. Critical Reading. Short Cuts. PRACTICE. Selections by Jacques Barzun, William Reynolds, John James Ingalls, Jacquetta Hawkes, Eratosthenes, Albert Schweitzer, Arnold J. Toynbee, Fydor Dostoyevsky, Soren Kierkegaard, William Wordsworth, Carl Sandburg, A. E. Housman, and others. TEST YOUR COMPREHENSION. VERIFY YOUR SUCCESS.

LEFEVRE—Linguistics and the Teaching of Reading
By CARL A. LEFEVRE, Chicago Teachers College North. *Curric. & Meth. in Educ.*
In Press
An introduction to structural linguistics and some of the applications needed for effective teaching of the skills of literacy at all grade levels. Language is treated as speech with constant cross-references between speech and writing, providing a useful reference for those who read English but do not speak it well. The sound system of American English is presented, from the smallest units to large patterns of utterance.
CONTENTS—A Program for Applying Structural Linguistics to Reading Instruction: A Preview and Guide to this Book. The Reading Problem in America. The Child's Language from Cradle to Kindergarten. Intonation: The Melodies of the Printed Page. Sentence Patterns. Function Order, Word Groups. Structure Words. Word-form Changes: The Four Word Classes. Spelling, Word Analysis, and Phonics. The Import of Language and of Reading. Notes to the Text. Appendix: Summary of Symbols and Abbreviations.

NEWTON—Reading in Your School
By J. ROY NEWTON, Professor of Education and Director of the Reading Center, New York State College for Teachers, Albany, New York.
296 *pp.*, 5½ *x* 8¼, 3 *illus.* (1960)....$5.95*c*
This book stresses the interrelatedness of both the elementary and secondary school; and coordinates the work of classroom teachers, reading-related services, and the administration. It discusses topics never before covered in a work of this kind: the status of state certification of reading specialists, suggested minimum standards for the professional training of

reading specialists, the cooperation necessary between home and school, the importance of an excellent potential of Federal, state, county, and local educational organizations. Whenever possible, the author considers more than one solution to a particular problem, discussing alternative measures so that a school may evaluate several approaches before determining what is best for a specific situation.

CONTENTS—Preface. Why Reading Is Everybody's Business. Causes of Poor Reading. Elimination of the Causes of Poor Reading. Primary Reading. Developmental Reading. Testing Programs. The Staff and Reading. The Reading Specialist. School Psychologist and Special Services. Parents and Public Relations. The Administrator's Role in Reading. Organizing School Reading Programs. Appendix A. Annotated Book List for Professional Library. Appendix B. Survey of Reading Climate. Appendix C. Addition to Cumulative Folder. Appendix D. Report Forms for Reading Control. Subject Index. Illustrations.

STRANG—Diagnostic Teaching of Reading

By RUTH STRANG, Univ. of Arizona.

In Press

A comprehensive approach to the teaching of reading and the diagnosis of reading difficulties focusing attention on what the pupil is doing right and on the progress he is making. The book offers a clear picture, as revealed by diagnosis, of the complexity of the learning-to-read process. The scope includes a point of view of diagnosis, a brief review of factors influencing a student's reading development, and descriptions of group and individual procedures. A basic text for reading and remedial reading courses in schools and departments of education.

CONTENTS—Preface. List of Tables and Illustrations. Part I: Introduction. Part II: Group Procedures. The Role of the Teacher in Diagnosis. Observation in the Classroom. Oral Reading as a Diagnostic Technique. Retrospective and Introspective Reports. Ascertaining Interests. Contribution of Tests. Part III: Individual Methods. Introduction. Physical Factors in Reading Diagnosis. Reading Tests Administered Individually. Indicators of Reading Potential. Interview Techniques. Projective Methods. Interpretation and Synthesis of Information. Appendices. Bibliography.

STRANG, McCULLOUGH, AND TRAXLER—The Improvement of Reading

By RUTH STRANG, Columbia University, CONSTANCE M. McCULLOUGH, San Francisco State College, and ARTHUR E. TRAXLER, Educational Records Bureau, New York. *Series in Curric. & Meth. in Educ.* Third Edition.

494 *pp.*, 6 *x* 9, 2 *illus.* (1961).....$6.95*c*

The third edition meets the need for a basic course in reading. It discusses the whole sequence of reading development and integrates it with the teaching of other subjects. It gives a background in the theory of reading, an understanding of different kinds of reading programs and how these may be developed in a given school, ways of appraising reading ability on different grade levels, and procedures or materials of reading instruction in each subject . . . in special reading groups . . . with individual cases.

CONTENTS—The Nature of Reading. Glimpses of Present Practice. Total Program for the Improvement of Reading. Sequential Development of Reading. Improvement of Reading in English Classes. Improvement of Reading in the Social Studies. Improvement of Reading in Mathematics and Science. Improvement of Reading in Other Subjects. Developmental Reading. Special Reading Groups. Special Problems of Slow Learners. Special Problems of Able Learners. Individual Treatment of Reading Cases. Appraisal of Reading Proficiency. Appraisal of Students' Reading Ability through Tests. Techniques in Word Recognition, Vocabulary, and Literal Comprehension. Higher Level Reading and Study Methods. Reading Interests. Materials, and Equipment. Personal Development through Reading. Trends in the Development of Reading.

TERMAN AND WALCUTT—Reading Chaos and Cure

By SIBYL TERMAN and DR. CHARLES CHILD WALCUTT.

220 *pp.*, 5⅜ *x* 8 (1958).....$4.75*t*

A probing analysis of the present state of degeneration in reading instruction throughout the country—and a cure. Mrs. Sibyl Terman, a noted remedial reading specialist, and Dr. Charles Child Walcutt, Professor of English at Queens College, dramatically detail the present crisis in reading education; how and why it has become so acute, what is being done to help or hinder progress in reading instruction, what parents and teachers can do about it now.

Reading: Chaos and Cure outlines a simple program which will cure reading failure in the schools *within one year.* The authors advocate the use of the phonics method—a proven, tried and simple technique. With the application of this method, the authors show how any child, even one who is now a problem reader, can learn to read easily and well. Included is a complete instruction manual for use at home or at school.

WOOLF AND WOOLF—Remedial Reading

By MAURICE D. WOOLF, Kansas State College, and JEANNE A. WOOLF, The Clinic for Counseling, Honolulu.

424 *pp.*, 6 *x* 9, 6 *illus.* (1957).....$6.95*c*

Concerned primarily with the multiple causes of reading disability, this text covers various techniques used in the diagnosis, counseling, instruction, and evaluation in the remedial reading program. The authors present the causes, psychological development, and methods of diagnosing, teaching, and treating reading disability, as well as insights into how anyone might learn to read and how any pupil might be taught. A unique feature of the text is the fact that it offers so many examples from case histories and group progress. The illustrative materials include; verbatim class discussions, counseling interviews, samples and lists of materials, statistical evidence of success, descriptions of success cases, reports of actual in-service-education workshops and seminars. There are also discussion topics, exercises, annotated bibliographies, and suggested step-by-step daily and weekly routines.

CONTENTS—Preface. Nature and Scope of Reading Problems. The Application of Psychological Concepts to the Reading Program. Uses of Tests in Diagnosis and Sectioning. Projective Techniques and Informal Methods. Methods, Materials, and Organization. Group Procedures. Counseling the Retarded Reader. Evaluating Developmental Reading. In-service Education. Appendix A. Easy Books Which Have Interested Retarded Readers and Non-readers. Appendix B. Spelling Words. Appendix C. Individual Record Form. Bibliography. Name Index. Subject Index.

Science

CROXTON—Science in the Elementary School

Including an Activity Program

By W. C. CROXTON. *Series in Educ.*

454 *pp.*, 6 *x* 9 (1939).....$6.95*c*

Provides a comprehensive theoretical basis for the teaching of science at this level, as well as a large body of detailed material for classroom use. Part I deals with the philosophy, history, aims, and methods of science teaching at the

elementary level, including a review of research contributions and suggestions for preparing to teach elementary science, Part II consists of suggested procedures for carrying on more than 100 science activities suitable for the elementary school, together with a statement of the contributing learnings and the desired outcomes of each activity.

MILLER AND BLAYDES—Methods and Materials for Teaching the Biological Sciences

A Text and Source Book for Teachers in Training and in Service

By DAVID F. MILLER and GLENN W. BLAYDES, both, The Ohio State University. Second Edition.

464 *pp.*, 6 x 9, 122 *illus.* (1962).....$7.95*c*

This revised edition retains the general plan and the sequence of materials of the first edition. The two divisions: Part I on classroom methods and principles, and Part II, on suggestions of materials and how to use them in teaching, have proved very useful to teachers. The logical arrangement and grouping of suggestions under subject-matter heads, and the simple explanations of how to prepare and use materials—as well as where to get them—have been outstanding features of the first edition, and are retained in the new. Included are new culture methods, new discussions of antibiotics, new material on plant hormones (auxins), two new experiments and demonstrations, and new data on the origin of new, heritable potentialities in plants. *Sansevieria trifasciata*, with seven mutants, are illustrated by photographs. The text also contains a new list of motion picture sources and a completely revised list of supply houses and sources of materials.

CONTENTS—Preface. Do You Really Want to Teach School? PART ONE: CLASSROOM METHODS FOR TEACHING BIOLOGICAL PRINCIPLES. 1. Education Is for the Future. 2. The Objectives of Teaching. 3. Should a Course Conform to a Type? 4. Methods of Presentation. 5. Make a Teaching Plan. 6. The Program Should Be Evaluated. 7. Materials and Equipment. 8. Visual Education. 9. How to Choose a Text. 10. Trends in the Curriculum. PART TWO: SOURCES, PREPARATION, AND USES OF MATERIALS. 11. Examples of Student Projects. 12. Collecting, Culturing, and Preserving. 13. Laboratory Aids and Substitutes. 14. Preparations for the Microscope. 15. Photosynthesis. 16. Digestion, Nutrition, and Growth. 17. Diffusion Apparatus and Materials for Demonstrations. CLASSROOM METHODS FOR TEACHING BIOLOGICAL PRINCIPLE. 18. Circulation. 19. Respiration. 20. Water Relations of Plants. 21. The Behavior of Organisms. 22. Reproduction. 23. Heredity. INDEX. Audio-visual Bibliography.

MUNZER AND BRANDWEIN—Teaching Science Through Conservation

By MARTHA E. MUNZER and PAUL BRANDWEIN, The Conservation Foundation. *Curric. & Meth. in Educ.*

470 *pp.*, 6 x 9, 173 *illus.* (1960)....$7.50*c*

Offers an excellent presentation of selected and practical laboratory and field study procedures in the study of conservation, taught through science. Conservation is dealt with, not as a separate subject to be worked into the curriculum, but rather as an integral part of science teaching. Among the wide variety of teaching procedures and techniques included are: discussions, demonstrations, in and out-door laboratory experiments, field trips, special projects, rudimentary research, clubs, assemblies, library work, the use of audio-visual aids, and use of community resources.

CONTENTS—Introduction by Fairfield Osborn. Preface. SCOPE AND SEQUENCE. The Science Teacher and His Commitment to Conservation and Resource-use Teaching. The Science Teacher and His Approach to Conservation. CONSERVATION AS A STUDY OF INTERRELATIONSHIPS BETWEEN LIVING THINGS AND THEIR ENVIRONMENT. Plants as Food Makers. Reproduction and Growth of Living Things. Water Masses and Living Things. Water and Man. A Study of the Soil. Growing Living Things in Farm and Garden. The Forest and Living Things. CONSERVATION AS A STUDY OF INTERRELATIONSHIPS BETWEEN MATTER AND ENERGY. A Study of Matter. Water and Weather. Earth's Envelope of Air. Our Mineral Resources: Finding and Identifying Them. Our Mineral Resources: Processing and Using Them. Our Energy Sources: Conventional. Our Future Energy Sources. CONSERVATION AS A STUDY OF FUTURE RESOURCES. Our Future Resource Discoverers and Developers. APPENDIX. Tools for the Teacher. Bibliography. Index.

RICHARDSON AND CAHOON—Methods and Materials for Teaching General and Physical Science

By JOHN S. RICHARDSON and G. P. CAHOON, Ohio State University.

475 *pp.*, 6 x 9, 547 *illus.* (1951)....$7.50*c*

Planned to give science teachers direct assistance in utilizing the laboratory or direct-experience approach. Offers specific procedures for student learning experiences, the equipment and operation of a science laboratory, and the details of hundreds of projects, demonstrations, and laboratory experiences.

CONTENTS—PART ONE: Laboratory Experiences for Science Teaching. Planning the Use of Apparatus and Materials in Science Teaching. Using Demonstrations and Laboratory Experiences in Science Teaching. Using Student Projects and Reports. Planning and Using Field Trips. Teaching for Thinking through Laboratory Experiences. Providing and Using Visual and Auditory Materials. Using Basic Operations and Devices. Providing and Maintaining Equipment. PART TWO: Demonstrations, Laboratory Experiences, and Projects for General and Physical Science. General Science. Physics. Chemistry. Appendix: Selected Sources of Demonstrations, Laboratory Experiences, and Projects. Books. Periodicals. Index.

Social Studies

BINING AND BINING—Teaching the Social Studies in Secondary Schools

By ARTHUR C. BINING, University of Pennsylvania, and DAVID H. BINING, Ridley Park High School, Pennsylvania. Third Edition.

340 *pp.*, 6 x 9 (1952).....$6.50*c*

Evaluates the various educational theories, discusses several methods of teaching, indicates successful classroom procedures, and describes the attributes necessary for successful teaching. Emphasis is on the importance of the work of the social studies teacher in civic training and the development of well-rounded personalities. The book will also be helpful to teachers in service.

CONTENTS—The Social Sciences and Social Studies. Aims and Objectives. The Development of Methods of Teaching. The Lecture and Textbook Methods. The Project and Problem Methods. Supervised Study. The Socialized Recitation. The Laboratory and the Laboratory Method. Unit Procedure. The Materials of Instruction. The Teacher of the Social Studies. Teacher Planning. The School Library and the Social Studies. Written Work and Outside Reading. Visual Aids to Teaching. Special Activities. Measurement and Evaluation. Education for Citizenship. Bibliography. List of Visual Materials. Index.

Basic School Subjects

FERNALD—Remedial Techniques in Basic School Subjects

By GRACE M. FERNALD. *Series in Educ.*

345 *pp.*, 6 x 9 (1943).....$6.95*c*

A systematic text for teachers in training and teachers in service, on the techniques of Dr. Fernald's methods for improving skills in basic school subjects. Presents the psychological experiments and their application in general

school conditions, and follow-up records showing that the application of established psychological principles makes success in the fundamentals possible for any normal individual.

CONTENTS—Introduction. Part I. PROBLEMS OF EMOTIONAL ADJUSTMENT. Emotional Aspects of Specific Disabilities. Part II. METHODS OF TEACHING READING. Reading. Reading Disability. Total of Extreme Disability. Partial Disability. Inversions. Reversions. Confusion of Symbols. Application of Remedial Technique to Group Work. Application of Remedial Reading Techniques to Elementary School Education. Summary of Results of Work in Clinical School. Remedial Reading Rooms in Los Angeles City Schools. Theories of Causation of Reading Disability. Part III. SPELLING. Spelling. Part IV. MATHEMATICS. Arithmetic. Part V. THE APPLICATION OF REMEDIAL TECHNIQUES TO THE MENTAL DEFECTIVE. Should the Mentally Retarded Individual Be Taught Reading, Writing, and Arithmetic? Part VI. CASE STUDIES. Case Studies. APPENDIXES. Individual Differences in Imagery. Investigations of Reading Disability.

Exceptional Children

HARING AND PHILLIPS—Educating Emotionally Disturbed Children

By NORRIS G. HARING, University of Kansas Medical School, and E. LAKIN PHILLIPS, National Orthopedic and Rehabilitation Hospital. *Series in Psych. & Human Dev. in Educ.*

371 *pp.*, 6 *x* 9, 21 *illus.* (1962).....$6.50*c*

This book reports on a *Structured* method of organizing and running a classroom program for emotionally disturbed children; one that has applicability to special classes but also much relevance for regular classes (wherein minor emotional and achievement problems would be handled). It departs from traditional methods of treatment in giving more emphasis and support to teachers and parents as to how they can *actively* help the recovery of the emotionally disturbed child. Details are given as to classroom handling of the educational and social-emotional problems of the child, and as to how home-school cooperation can be blended into a constructive program.

CONTENTS—Introduction. Selected Review of Educational Practices. Recent Development in Structuring Classroom Learning. An Experiment in Educating Emotionally Disturbed Children. Administrative Organization: Referral and Classroom Organization. Personnel Considerations. Educational Methods and Materials for Special Classes. Handling Specific Problem Situations. Working with Parents. Generalizing Results to Other Cases. Appendix A. Protocols from Parent Group Meetings. Appendix B. Teachers' Observations and Comments.

HECK—The Education of Exceptional Children

By ARCH O. HECK, formerly Ohio State University. *Series in Educ.* Second Edition.

513 *pp.*, 6 *x* 9, 30 *illus.* (1953).....$6.95*c*

This text considers the education of all types of exceptional or handicapped children—the blind, crippled, deaf, hard of hearing, partially sighted, speech defectives, gifted, specially gifted, subnormal, delinquent, and truants. Problems of organizing and administering an educational program for them, of preventing all types of handicap, and of providing proper physical care and follow-up are discussed.

CONTENTS—The Field and the Challenge. PART I. EDUCATION OF THE SOCIALLY HANDICAPPED CHILD. The Local Problem. The Special Class and School. The Parental School. The State's Program. The State Training School. Typical State Schools. The Challenge of the Socially Handicapped. PART II. EDUCATION OF THE PHYSICALLY HANDICAPPED CHILD. Education of the Crippled Child. Problems Faced in Educating Cripples. Challenge of the Cripple. Education of Blind Children. Local Problems Faced in Educating the Blind. Education of Low-visioned Children. Local Problems Faced in Educating Low-visioned Children. Challenge of the Child with Defective Vision. Education of Deaf Children. Problems Faced in Educating the Deaf. Challenge Presented by the Deaf Child. Care and Education of Hard-of-hearing Children. Education of Children Having Defective Speech. Education of Delicate Children. PART III. EDUCATION OF MENTALLY EXCEPTIONAL CHILDREN. Education of Children of Low I.Q. Problems Faced in Educating Children of Low I.Q. Challenge Presented by Children of Low I.Q. Education of Gifted Children. Problems Faced in Educating Gifted Children. Challenge of the Gifted Child. Education of Specially Gifted Children. PART IV. PROBLEMS OF ADMINISTRATION. Financing Special Education. State Administration and Control. Program of Prevention. State Program for Educating Exceptional Children. Challenge of the Future.

Extracurricular Activities

GRUBER AND BEATTY—Secondary School Activities

By FREDERICK C. GRUBER, University of Pennsylvania, and THOMAS BAYARD BEATTY, Bucknell University. *Series in Educ.*

307 *pp.*, 6 *x* 9 (1954).....$5.95*c*

Covering the development and progress of extra- and co-curricular activities in secondary education, this practical volume devotes 10% to theory and background material and 90% to specific suggestions for carrying on student activities successfully. The book will enable the reader to organize, conduct, and evaluate specific activities. Emphasis is on the importance of student participation in the organization and development of the individual's potential powers and capacities.

CONTENTS—Importance of Student Activities in Secondary Schools. Relation of Student Activities to the Democratic Ideal. Administration of Student Activities. Financing and Promoting Student Activities. The Home Room. Student Participation in School Control. Speech, Dramatics, and Dance. Music. Club Programs. Health, Physical Education, and Recreation. The School Assembly. Student Publications. Content and Make-up of School Publications. The Social Program. Commencement Activities. Activities in Cooperating Agencies. Evaluating Student Activities.

Educational Psychology

Principles

BERNARD—Psychology of Learning and Teaching

By HAROLD W. BERNARD, General Extension Division, Oregon State System of Higher Education.

436 *pp.*, 6 *x* 9 (1954).....$6.95*c*

Emphasizes the individual and the influence of the cultural setting on learning. Includes discussions of motivation, growth, types of learning, the nature of the individual, the learner in American culture, and specific examples of learning such as language development, habits, and personality growth.

CONTENTS—TOMORROW'S TEACHER, TODAY'S STUDENT, AND PSYCHOLOGY. The Field of Educational Psychology. Psychological Bases of Effective Study. Teacher Personality as a Factor in Learning. LEARNING AS A GROWTH PROCESS. Motivation of Learning. The Nature and Course of Growth. Relationships of Growth, Learning, and Teaching. The Nature and Course of Learning. Reasoning and Problem Solving. Educational Implications of Transfer. THE NATURE OF THE LEARNER. Per-

sonality and Its Development. The Nature and Nurture of Intelligence. The Nature and Measurement of Individual Differences. The Child as a Learner. The Adolescent as a Learner. IMPROVING THE TEACHING-LEARNING SITUATION. Factors Which Facilitate Learning. Emotional Aspects of Education. The Nature and Direction of Habits. Cultural Influences—the Role of the Social Setting. Language Development. Mental Hygiene as an Aspect of Educational Psychology. Appraising for Future Growth.

FRANDSEN—How Children Learn
An Educational Psychology
By ARDEN N. FRANDSEN, Utah State Agricultural College. *Series in Educ.*
219 *pp.*, 6 *x* 9, 167 *illus.* (1957).....$6.95*c*
Specifically designed for prospective elementary school teachers. From an extensive accumulation of pertinent research and theories, the author develops an integrated theory of learning, which will increase teachers' understanding of how children learn and improve teachers' skills in guiding children in learning. To facilitate this practical purpose, the sequence of chapters is organized around the major functions of teaching and the conditions of effective learning.
CONTENTS—Aims and Curriculum of the Elementary School. Learning: An Integration of Theories. Maturity and Learning. Teacher-Guidance of Learning Activities. Practice as a Condition of Learning. Perception of the Effects of Goal-Directed Trials as a Condition of Learning. Transfer of Training. Motivation and Learning. Mental Health and Learning. Learning Theory and Teaching. Remembering and Forgetting. Appraising Individual Differences in Abilities. Providing for Differences in Abilities. Appraising School Achievement. Index.

FRANDSEN—Educational Psychology
The Principles of Learning in Teaching
By ARDEN N. FRANDSEN, Utah State University.
610 *pp.*, 6 *x* 9, *illus.* (1961).....$7.50*c*
Study Guide (Benimoff).....$2.50*c*
A unique new book designed to meet the challenge of modern education and cover the entire sphere of educational psychology in both elementary and secondary situations. Through research covering half a century and first hand reports from experienced teachers, this text illustrates the principles of learning and shows how they can be applied in effective teaching. It is completely modern and presents a balanced approach to current learning theories.
CONTENTS—Preface. Educational Psychology in the Modern School. How We Learn: An Integration of Theories. Readiness for Learning: Adjusting Learning to Maturity and Development. Appraising Abilities. Teaching Individuals in Groups. Motivation and Learning. Structuring Approaches to Problems. The Trial and Check Process in Learning. Efficient Modes of Attack in Learning. Transfer: Generalizing in Learning. Remembering and Forgetting. Mental Health: Its Role in Learning. Fostering Mental Health. Social Learning in the Classroom. Appraising Learning.

GINOTT—Group Psychotherapy with Children
The Theory and Practice of Play Therapy
By HAIM G. GINOTT, New York University. *Series in Psych. & Human Dev. in Educ.*
208 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961).....$6.25*r*
The first book on group play-therapy, primarily intended for graduate courses in child psychotherapy and group psychotherapy, as well as for practicing psychologists, psychiatrists, and social workers. Its purpose is to give clear descriptions of play therapy techniques and of the rationales which support them. It is a practical book; it grew out of years of work as a therapist in a child guidance setting, and as a supervisor and teacher of child therapy. The book gives a theoretical framework for group play-therapy, and offers criteria for: the selection and grouping of children, the differential diagnosis of young children through play observation, selecting toys and materials for younger and older children.
CONTENTS—A Theoretical Framework for Group Play-Therapy. Selection of Children for Group Play-Therapy. The Composition of Groups. Differential Diagnosis Through Play Observations. A Rationale for Toy Selection. The Playroom and the Activity Room. The Therapy Hour. The Theory and Practice of Limits. The Child Therapist: Qualities and Qualifications. Research in Play-Therapy. Group Screening: Preintake Selection of Motivated Applicants. Parent Guidance Groups.

KOLESNIK—Educational Psychology
By WALTER B. KOLESNIK, University of Detroit. *Cath. Series in Educ.*
560 *pp.*, 6 *x* 9, *illus.* (1963).....$7.50*c*
This textbook is intended for use by prospective elementary and high school teachers at the undergraduate level. Its purpose is to contribute to the preparation of effective teachers by broadening and deepening their understanding of the learner and the learning process. The book achieves this purpose by explaining, interpreting, and evaluating those theories and research findings of experimental psychology which are relevant to the work of the classroom, and to relate them to a Catholic philosophy of education. It stresses both the methodology and results of scholarly research, but research is presented as a means to effective teaching, rather than an end in itself.
CONTENTS—Preface. Introduction to Educational Psychology. Statistical Concepts in Educational Psychology. The Effective Teacher. Human Development. Childhood and Adolescence. The Nature and Development of Mental Abilities. The Measurement of Mental Abilities. The Gifted Child and the Slow Learner. The Learning Process. Efficient Learning. The Transfer of Learning. Conceptual Learning and Thinking. Developing the Ability to Think. Motivation. Measuring the Outcomes of Learning. Teacher-made Tests. Learning as a Social Process. Principles of Mental Health. Mental Health and the School. Discipline and Behavior Problems. Character Formation. Index.

PRESCOTT—The Child in the Educative Process
By DANIEL A. PRESCOTT, University of Maryland. *Series in Educ.*
502 *pp.*, 6 *x* 9, 8 *illus.* (1957).....$7.50*c*
Demonstrates the extraordinary complexity of the teacher's task, and analyzes the knowledge and skills a teacher must have in order to understand his pupils as individual developing persons. Theories on human development, behavior, and adjustment which have proven usable and valuable to the author are stated briefly. In addition, there is a description of the practical steps which various schools are taking to implement the educative process.
CONTENTS—Preface. PART I. ON THE EDUCATIVE PROCESS. The Teacher's Task. Basic Assumptions. Mood and Timing. PART II. ON UNDERSTANDING CHILDREN. The Bases of Understanding. Interpreting Behavior. Obtaining Information. Organizing Information. Seeing Development. Analyzing Group Dynamics. PART III. ON HUMAN DEVELOPMENT. The Individual as Shaped. The Individual Shapes Himself. PART IV. ON CHANGING THE EDUCATIVE PROCESS. Education Is Changing. The Child-study Program. Bibliography. Index.

SORENSON—Psychology in Education
By HERBERT SORENSON, University of Kentucky. *Series in Educ.* Third Edition.
535 *pp.*, 6 *x* 9 (1954).....$6.95*c*
Workbook for Psychology in Education. Third Edition (Sorenson and Fahey).$2.75*c*
Correlated Text-Film Series—five 16mm sound motion pictures.....$570.00
Five follow-up filmstrips.....each $5.00

Contains and interprets the fundamental psychological facts, principles, and theories applying to education. This basic text for college students stresses the problems of pupil adjustment as well as the learning of subject matter. Considerable emphasis is placed on growth and development, physical, mental, and social.

CONTENTS—Human Physical Growth and Development. Mental Growth and Development. Social Growth and Development. Our Wants, Drives, and Urges. Emotions, Personality, and Mental Hygiene. Mental Hygiene and Personal Adjustment. The Mental Hygiene of the Teacher. Measuring the Capacity for Learning. Intelligence and Its Relationship to Other Qualities. Learning Capacity and School Success. Adjustment to Individual Differences in Intelligence. Heredity, Environment, and Human Development. The Progress of Growth and Development through Learning. Principles of Learning. Interest, Attention, Incentives, and Motivation. Memory—Remembering and Forgetting. Transfer of Learning and Mental Discipline. Fatigue, Drugs, Atmospheric Conditions, and Efficiency. The Activity and Project Method of Teaching—Informal and Incidental Learning. Being an Effective Student. Measuring the Learning and Achievement of Pupils. Reporting the Achievement and Adjustment of Pupils. Appendix. Glossary. Author Index. Subject Index.

Tests and Measurements

BARON AND BERNARD—Evaluation Techniques for Classroom Teachers

By DENIS BARON, School of Education, Oregon State College, and HAROLD W. BERNARD, Oregon State System of Higher Education. *Series in Educ.*

297 *pp.*, 6 *x* 9, 25 *illus.* (1958).....$6.50*c*

Designed to offer the classroom teacher a nontechnical orientation toward tests—their uses and limitations. The authors approach the question of evaluation from the learning standpoint, rather than attempting a strict "scientific" approach. The book contains recent data on sociometry in evaluation, personality inventories, and the role of evaluation in fostering continuous and appropriate learning on the part of individual pupils. A unique method of relating achievement to mental age is also presented. Each chapter contains a brief summary, a short annotated bibliography of selected readings, and questions for study and discussion.

CONTENTS—Preface. Sampling Pupil Behavior. How to Identify a "Good" Test. Choosing the Right Test. How Norms Help Us to Size Up Pupils. Estimating Capacity for Learning. Evaluating Pupil Achievement. Estimating Readiness for Learning. Appraising Personality. Evaluating Classroom Social Relationships. Studying Interests and Attitudes. Rating Techniques in Pupil Evaluation. Constructing and Using Teacher-made Tests. Improving Appraisal Practices. Toward a Planned Program of Evaluation. Appendix—Organizing Test Results for Interpretations. Name Index. Subject Index.

BEAN—Construction of Educational and Personnel Tests

By KENNETH L. BEAN, Baylor University.

231 *pp.*, 6 *x* 9, 1 *illus.* (1953).....$6.50*c*

Of vital interest to all teachers, this book explains clearly and concisely exactly how to plan and construct aptitude and achievement tests at both school and college levels and on all subjects. It is valuable also in developing performance tests of skills as well as written tests of knowledge and abilities. Principles and applications are offered with simplicity and intelligibility, and complex statistical methods are avoided.

CONTENTS—Introduction. Planning the Examination as a Whole. Converting Material into Objective-test Items. Special Problems in Objective-test Construction. To "Essay" or Not to "Essay." Performance Tests. Review and Tryout of a Test. Validity, Reliability, and Standardization. Appendixes. Index.

MICHEELS AND KARNES—Measuring Educational Achievement

By W. J. MICHEELS, University of Minnesota, and M. RAY KARNES, University of Illinois. *Series in Educ.*

496 *pp.*, 6 *x* 9, 217 *illus.* (1950).....$6.95*c*

Written as an aid to the instructor who makes his own tests and designs other instruments for the measurement of educational achievement. Examples have been drawn not only from the field of industrial education, but also from a large and representative number of other educational fields, and procedures and techniques presented apply to the academic fields in general and to the whole practical arts area in particular.

CONTENTS—An Introduction to Measurement. Kinds and Types of Evaluating Instruments. Purposes of Evaluation. What Makes a Good Test. General Principles of Test Construction. Multiple-choice Items. True-False Items. Matching Items. Recall Items. Modified, Adapted, and Combined Items. Object Tests. Manipulative-performance Tests. Observation and Evaluation. Evaluating Major Projects. Interpreting Test Data and Assigning Marks. Analyzing and Improving Tests. Improving Your Instruction—A Challenge. Index.

NUNNALLY—Educational Measurement and Evaluation

By JUM C. NUNNALLY, Vanderbilt Univ.

In Press

States that tests are helpful only to the extent that they help in making educational decisions. Each major type of test is discussed in relation to its contributions to particular kinds of educational decisions. Considered are: general principles of measurement and evaluation; the construction and use of teacher-made tests; the use and interpretation of commercially-distributed achievement tests; the measurement of intelligence and special aptitudes; and the measurement of attitudes, interests, and personality.

CONTENTS—Basic Principles of Measurement and Evaluation. Construction and Use of Teacher-made Tests. Standardized Achievement Tests. Prediction and Trait Measurement—Human Abilities. Prediction and Trait Measurement—Interests, Attitudes, and Personality. Appendices. References. Index of Names and Topics.

VAN DALEN—Understanding Educational Research

An Introduction

By DEOBOLD B. VAN DALEN, University of Pittsburgh. *Psych. & Human Dev. in Educ. Series.*

448 *pp.*, 6 *x* 9, 16 *illus.* (1962).....$6.95*c*

In this text, the exposition proceeds from the familiar and concrete to the abstract. The viewpoint of those who are approaching the systematic study of research for the first time is constantly kept in mind. To aid students who have a limited background in psychology, logic, and mathematics, this text links scientific terminology and tactics to their everyday experiences. Through illustrations of commonplace activities in classroom and life situations, it explores techniques that men have devised to solve problems. With a minimum of technical jargon and carefully constructed stepping stones of understanding, this text introduces students to the psychological and logical foundations upon which scientific investigations rest.

CONTENTS—Preface. Social Progress and Research. Methods of Acquiring Knowledge. Concepts Underlying the Scientific Method. The Nature of Observation. Printed Resources for Problem Solving. Library Skills for Problem Solving. Analysis of the Problem. Solution of the Problem. Patterns of Historical Research. Patterns of Descriptive Research. Patterns of Experimental Research. Tools of Research. Descriptive

Statistics. Inferential Statistics. Writing the Research Report. Evaluation and Publication of Research. APPENDIX.

Psychology in Education

BARUCH—New Ways in Discipline
By DOROTHY WALTER BARUCH.
268 *pp.*, 5½ *x* 8, *illus.* (1949).....$4.95*t*
Basically Dr. Baruch's "new ways" in discipline involve a simple technique that any parent can apply—learning the underlying reasons for the child's behavior; making the child understand that you know how he feels; allowing him to let out the "badness"; and finally, channeling feelings of anger, fear, and insecurity into other emotions and activities.
CONTENTS—Preview: Spank or Not to Spank? Stop! Look! Listen! Show Him You Know How He Feels. Getting the "Badness" Out. He Need Not Run Wild. Dispelling Disobedience. Handling Crucial Moments as He Grows. Better Beginnings. The Hopeless Rival. He Wants to Be Big and Bigger. What You Can Do in Times of Peace to Reduce Times of Stress. Time Alone Together. Story Books of Their Own. Mudpies and Rainbows. The Play's the Thing. New Ways of Discipline in Our Schools. Mechanical Measures or Creative Endeavors? Our Feelings Count Too. Index.

BARUCH—New Ways in Sex Education
By DOROTHY WALTER BARUCH.
235 *pp.*, 5⅜ *x* 8, 7 *illus.* (1959).....$4.95*t*
This clearly written, straightforward book offers a complete new and fresh approach to the difficult problem of sex education for children. For, Dr. Dorothy Walter Baruch, a leading consultant and psychology, and author of *New Ways in Discipline*, holds that sex education must accomplish far more than merely answering a child's questions. Beautifully written and competely free of psychological or academic jargon, the book shows parents how to get the subject of sex out into the open with children, so that it may be discussed frankly and freely. The book gives a constructive program that will help keep the child a normal, well-balanced individual at every stage of his growth. Stories that may be told to children, dramatically illustrating important points in the discussions, are included, together with helpful anatomical drawings.

BARUCH—How to Live With Your Teen-Ager
By Dr. DOROTHY WALTER BARUCH. Illustrated by LOIS FISHER.
280 *pp.*, 5½ *x* 8 (1953).....$4.95*t*
*McG-H Paperbacks Ed.**
A realistic, reassuring, and helpful book on how to take the worry and perplexity out of life with teen-agers. Emphasizes understanding between parent and teen-ager, knowing what he is striving for and what makes him tick. Includes a masterfully organized and expressed discussion of sex education, outlining the information the parent should impart.
** Available only through your local bookstore.*

Adolescent Development

CROW AND CROW—Adolescent Development and Adjustment
By LESTER D. CROW and ALICE CROW, Brooklyn College.
555 *pp.*, 6 *x* 9, *illus.* (1956).....$6.95*c*
Based on the authors' many years of experience in working with and guiding teen-age boys and girls, this book will aid the reader in gaining an objective understanding of the developmental and adjustive changes that take place during the growing-up years. Here, the processes of adolescent development are traced; attention is given to the gradualness and continuity of the growth pattern; and the effect of previous childhood experiences upon the behavior and attitudes of young people during the adolescent years is emphasized. The book covers adolescent experiences, adolescent development, adolescent behavior motivations, and adolescent adjustments. The appendix includes a recommended list of visual aids and a self-evaluating questionnaire.
CONTENTS—ADOLESCENT EXPERIENCES. Significance of Adolescence. Biological and Cultural Heritage. Approaches to the Study of Adolescence. ADOLESCENT DEVELOPMENT. Physical and Physiological Growth. Maturing Mental Abilities. Changing Emotional Patterns. Personal and Social Aspects of Personality Development. ADOLESCENT BEHAVIOR MOTIVATIONS. Importance of Interests and Attitudes. Sex Behavior of Adolescents. Physical, Mental, and Emotional Deviation. Conflicts in Behavior Disorders. Behavior Delinquencies. Significant Life Values. ADOLESCENT ADJUSTMENTS. Home Adjustment of Adolescents. School Adjustment of Adolescents. Vocational Adjustment of Adolescents. Social Adjustment of Adolescents. APPENDIXES. Recommended Films. Self-evaluating Questionnaire. Index.

MALM AND JAMISON—Adolescence
By MARGUERITE MALM and OLIS G. JAMISON, Indiana State Teachers College.
501 *pp.*, 6 *x* 9, 36 *illus.* (1952).....$6.95*c*
A college text for students of education and valuable reference for social workers, ministers, high-school teachers, parents, and recreation leader. The book is a skillfully organized account of the teen-age period as a whole. The first part tells who the adolescent is, why he should be studied, and what the "world of the adolescent" is. The second part offers a thorough consideration of each aspect of the teen-ager's adjustment—the physical, heterosexual, social, emotional, spiritual, mental hygiene, and the vocational. In the final section, the home, community, and school are considered in their relationship to the adolescent.
CONTENTS—Part I. THE ADOLESCENT AND HIS WORLD. Who Is the Adolescent? Why Study the Adolescent? The World of the Adolescent. Part II. THE ADOLESCENT AND HIS ADJUSTMENT. Growing Up Physically. Social Adjustment. Heterosexual Adjustment. Emotional Adjustment. Moral and Religious Adjustment. Personal Adjustment. Vocational Adjustment. Juvenile Delinquency. Part III. MAJOR INFLUENCES ON THE ADOLESCENT. The Adolescent and His Home. The Adolescent and the Community. The School for the Adolescent.

Mental Hygiene

BERNARD—Mental Hygiene for Classroom Teachers
By HAROLD W. BERNARD, General Extension Division and University of Oregon. Second Edition.
498 *pp.*, 6 *x* 9, 23 *illus.* (1961).....$6.95*c*
A revision in the true sense of the word, this second edition has been completely reworked and altered by the introduction of modern research material and considerable condensation of the basic material which appeared in the first edition. This vital text is a must for prospective teachers who want to keep abreast of the latest research results in the field of mental hygiene. This text gives elementary and secondary teachers the latest practical suggestions for helping their students to achieve maximum self-realization, robust self-concepts, and socially oriented behavior. Professor Bernard retains the emphasis on practical applications to pupil problems, and offers a positive view of mental hygiene for the teachers.
CONTENTS—Meaning and Importance of Mental Hygiene. The Basic Needs of Children. Needs and

Tasks of Adolescents. Social Class and Developmental Tasks. Teacher Personality and Pupil Behavior. Understanding and Helping Pupils with Problems. Personality Problems in the Classroom. Defense Mechanisms in the Classroom. Mental Hygiene for Slow Learners and the Gifted. The Mental Hygiene of Discipline. Teaching Methods and Mental Health Practices. School Hazards to Mental Health. Constructive Classroom Approaches to Mental Health. Art and Music as Mental Health Approaches. Understanding and Release through Writing and Reading, Drama, Play, and Dance as Analysis and Therapy. Special Services in School and Community. Limitations and Precautions Regarding Mental Hygiene. A Positive View of the Teaching Profession. The Teacher's Philosophy—In the School. The Teacher's Philosophy —Adult Mental Health.

CROW AND CROW—Mental Hygiene

By LESTER D. CROW and ALICE CROW, Brooklyn College. *Series in Educ.* Second Edition.

433 *pp.*, 6 *x* 9 (1951).....$6.95*c*

Describes the functions of mental hygiene and analyzes the physical, mental, and emotional adjustments of the developing individual in his human relationships. Positive hygienic approach is stressed in a detailed treatment of home, school, occupational and other community factors of adjustment.

CONTENTS—PART I. MENTAL HYGIENE AND THE INDIVIDUAL. Mental Hygiene—Its Nature and Function. The Emotions and Individual Adjustment. Attitudes and Conflicts in Adjustment. Significance of Adjustment Mechanisms. PART II. HYGIENE ADJUSTMENT OF THE DEVELOPING PERSON. Adjustment Problems of the Preschool Child. Adjustment Problems of the Elementary-school Child. Adjustment Problems of the Secondary-school Pupil. Adjustment Problems of the College Student. Adjustment Problems of the Adult. Adjustment Problems of the Physically Handicapped and the Mental Deviate. Adjustment Problems of the Mental Deviate. PART III. MENTAL HYGIENE IN RELATION TO SCHOOL FUNCTIONS AND PERSONNEL. The Educational Needs of the Individual. Life Adjustments and the Curriculum. The Teacher and His Adjustments. Hygienic Supervision. Hygienic Aspects of Self-discipline. Utilization of Evaluating Techniques. Guidance as a School Function. PART IV. MENTAL HYGIENE IN RELATION TO GENERAL LIFE AREAS. Achieving Marital and Family Adjustment. Achieving Occupational Adjustment. Adjustment in Community Relations. PART V. MENTAL ILLNESS AND MENTAL HEALTH. The Problem of Mental Illness. Therapy for the Mentally Ill. Personality—The Resultant of Living. Visual Aids. Name Index. Subject Index.

Research

McASHAN—Elements of Educational Research

By HILDRETH H. MCASHAN, Brevard County Board of Public Instruction, Titusville, Florida.

208 *pp.*, 5⅜ *x* 8 (1963).....$4.95*c*

Soft-cover Edition $2.95*c*

A practical work which explains and defines the nature of educational research, and proceeds to discuss the entire process of scientific experimental investigation. Each step of the scientific process is systematically and lucidly organized into the practical sequential development of a real research problem. A research project performed at Michigan State University is used throughout the book to illustrate the various steps in the project. A background in mathematics or research is not needed.

CONTENTS—The Nature of Educational Research. The Process of Scientific Experimental Investigation. Establishing a Problem. The Hypothesis. Research Design. Data Collection. Analysis of Data. Summary, Conclusions, and Recommendations. Submitting Research Proposals. Suggested References.

Counseling and Guidance

Principles and Techniques

BERNHARDT—Discipline and Child Guidance

By KARL S. BERNHARDT, Univ. of Toronto. *Series in Guidance, Couns. & Stud. Pers. in Educ.*

In Press

Utilizing research material on child development, the author offers a carefully developed philosophy of discipline illustrated by numerous examples. Each developmental stage is covered in this non-technical presentation.

JOHNSON, STEFFLRE, AND EDELFELT—Pupil Personnel and Guidance Services

By WALTER F. JOHNSON, BUFORD STEFFLRE, both of Michigan State University, and ROY EDELFELT, National Education Association, Washington. *Series in Guidance Couns. & Stud. Pers. in Educ.*

407 *pp.*, 6 *x* 9, *illus.* (1961).....$6.50*c*

In order to make the necessary change, vital to the pressures of our time, education must now be enlarged to satisfy the need for individualization. This text provides for that change by reappraising the guidance function of education and its relation to instruction and administration. Guidance workers are now seen as members of a team which includes health workers, social workers, and psychologists to provide an over-all personnel service.

CONTENTS—A Point of View on Pupil Personnel and Guidance Services. The Nature and Development of the Pupil. The Exceptional Child. The Child and His Environment. Parents and the School. The Role of the Administrator. The Role of the Teacher. The Role of the School Psychologist. The Role of the School Social Worker. The Role of the Elementary School Counselor. The Role of the Secondary School Counselor. Introduction to Techniques. Understanding the Child: Adult Perceptions. Understanding the Child: Peer Perceptions. Understanding the Child: Self Perceptions. Counseling—Procedures and Process. Group Activities and Procedures. A Look at the Future. Pupil Personnel Services in Tomorrow's Schools.

JONES—Principles of Guidance

By ARTHUR J. JONES, Professor Emeritus, The University of Pennsylvania. *Series in Guidance, Couns. & Stud. Pers. in Educ.* Fifth Edition.

314 *pp.*, 6 *x* 9, *illus.* (1962).....$6.50*c*

This book aids counselors and teachers in elementary and secondary schools in helping their students understand the problems that face them now and in the future and to make wise choices and useful adjustments. Emphasized is the gradual development of the individual to solve his own problems and make his own adjustments. This edition has been extensively rewritten and shortened; the chapters are reduced from 27 to 15. The author has incorporated much recent research and numerous new concepts and aids. There are discussions of new areas in guidance and its present status.

STOOPS AND WAHLQUIST—Principles and Practices in Guidance

By EMERY STOOPS, University of Southern California, and GUNNAR L. WAHLQUIST, El Monte Union High School District.

369 *pp.*, 6 *x* 9, 47 *illus.* (1958).....$6.50*c*
A text for the basic course in guidance offered to upper division and graduate college students which will also be especially helpful to practitioners in the field. It gives the "how" of guidance practices to implement basic guidance principles, theories, and policies. Many forms and charts are quickly available for use by busy school administrators. Procedures included are geared to *all* levels of the public school system. Includes a variety of case studies.
CONTENTS—Preface. Guidance—An Indispensable Pupil Service. Information about the Individual. Information about the Individual (Continued). Information about Opportunities. Information about Opportunities (Continued). Counseling. Placement and Adjustment. Follow-up in Guidance. Essentials of a Good Guidance Program. Personnel in the Guidance Program. Budget. Public Relations in Guidance. Circulating Guidance Information. Evaluation of the Guidance Program. Appendix. List of Visual Aids. Index.

TOLBERT—Introduction to Counseling
By E. L. TOLBERT, Madison College.
322 *pp.*, 6 *x* 9, 41 *illus.* (1959).....$6.50*c*
A practical, well-written text for the beginning course in counseling techniques for preservice and in-service teachers. The emphasis is on PROCESS—or what to do when actually working with the individual, and on understanding the reasons for the procedures. A developmental approach to counseling is used, and counseling is considered as an essential aspect of the educative process. Evaluation procedures are included. One major illustrative case runs through the book; there are also brief cases and parts of interviews to further illustrate the process.
CONTENTS—Preface. Introduction. Beginning the Counseling Process—The Information—Getting or Diagnostic Phase. Beginning the Counseling Process—The Information—Getting or Diagnostic Phase (cont.). Beginning the Counseling Process—The Information—Getting or Diagnostic Phase (cont.). Using the Cumulative Record in Counseling. Using Tests in Counseling—Introduction. Using Tests in Counseling—Conclusion. Bases of Counseling Using Other Sources of Information in Counseling—Anecdotal Records, Autobiographies, Comments of Others, Informational Forms, Informal Projective Methods, Sociometric Data, Time Schedules. Using Occupational Educational, and Other Types of Information in Counseling—Introduction. Using Occupational, Educational, and Other Types of Information in Counseling—Conclusion. Synthesis and Interpretation of Data. Planning and Decision-making in Counseling—Introduction. Planning and Decision-making in Counseling—Conclusion. Evaluation and Research for the Improvement of Counseling.

DETJEN AND DETJEN—Elementary School Guidance
By ERVIN WINFRED DETJEN, Hazelwood School, Louisville, Kentucky; and MARY FORD DETJEN, Alex G. Barret Junior High School, Louisville, Kentucky. *Series in Guidance, Couns. & Stud. Pers. in Educ.* Second Edition.
256 *pp.*, 6 *x* 9, *illus.* (1963).....$5.95*c*
Teachers, prospective teachers and parents will find this book helpful in understanding children, to recognize and interpret symptoms of maladjustment, to search for causes of emotional ills, and to discover effective methods of treating these ills before they become deep-rooted and chronic. Utilizing the mental hygiene approach, the authors emphasize needs, desires and conflicts of the elementary school child. They combine a philosophy of guidance with definite step-by-step procedures for putting theory into practice. Each chapter begins with a discussion on some phase of child behavior, psychology, or guidance and ends with suggested pupil activities designed to help one to understand the child better and to help the child discover better ways of working out his own solutions. Revisions include greater stress on the concepts of guidance as a process and numerous new chapters.
CONTENTS—Putting Guidance into Practice. Creating Wholesome Pupil-Teacher Relations. Studying the Home Environment of Pupils. Understanding the Physical Needs of Children. Meeting the Social Needs of Children. Studying Aggressive Behavior. Understanding the Shy, Withdrawing Child. Overcoming Fear and Jealousy. Helping Children Who Need Improved Status. Considering Attendance Problems. Cultivating Desirable Personal Qualities. Encouraging Good Study Habits. Guiding Slow and Rapid Learners. Communicating with Parents. Preparing for the Next Step.

BAILARD AND STRANG—Parent-Teacher Conferences
By VIRGINIA BAILARD, Long Beach Unified School District; and RUTH STRANG, Univ. of Arizona. *Series in Guidance, Couns. & Stud. Pers. in Educ.*
216 *pp.*, 5⅜ *x* 8 (1963).....$6.50*c*
Discusses the conditions and setting necessary for successful parent-teacher conferences from kindergarten through high school. This book indicates the place of parent-teacher conferences in the total program of parent education and stresses how parents and teachers can share in contributing to the child's development. The mechanics of preparing for the conference, contacting the parents, and getting ready for the interview are outlined. It illustrates by actual script how the interview should be handled and then evaluates how the teacher conducted the interview. These interviews are indicative of the type most frequently held in school situations with the limitations of time, place, and technical knowledge of the persons concerned.

DETJEN AND DETJEN—So You're in High School
By MARY FORD DETJEN and ERVIN WINFRED DETJEN, Hazelwood School, Louisville, Kentucky. Illustrated by CHARLES GEER.
121 *pp.*, 5⅜ *x* 8, 11 *illus.* (1958).....$2.95*j*
Every high school student will find practical help in this book by outstanding specialists in the guidance field. It discusses in a realistic manner such universal high school problems as making new friends, working effectively with teachers, developing good study habits, participating in extracurricular activities, building home room and school programs, holding school office, looking toward a vocational choice, becoming a more mature person. Based on the authors' well known text, *Your High School Days*, this is timely, interesting reading.

FROEHLICH—Guidance Services in Schools
By CLIFFORD P. FROEHLICH. Second Edition.
383 *pp.*, 6 *x* 9, 12 *illus.* (1958).....$6.50*c*
This introductory text gives an overview of guidance services in both elementary and secondary schools. This second edition has been revised and enlarged to include programs and practices applicable to schools of any size. New illustrative examples are included, and a chapter highlighting guidance in elementary schools has been added. There are additional readings and questions for each chapter, and a series of "Thinking It Through" sections has been included to aid the reader in making practical application of the subject matter.
CONTENTS—Preface. A Point of View. Basic Services of a Guidance Program. Guidance Programs in Action. Organizing a Guidance Program. Initiating the Organized Program. The Service of Orientation. Group

Methods in Information Service. Aids for the Information Service. Studying the Individual. The Service of Counseling. The Service of Placement. Teachers and the Guidance Program. The Guidance Program and the Curriculum. Public Relations and the Guidance Program. Research and Evaluation. Guidance Services in Elementary Schools. Index.

HAHN—Psychoevaluation

Adaptation, Distribution, Adjustment

By MILTON E. HAHN, University of California, Los Angeles.

228 *pp.*, 5⅝ *x* 8⅜ (1963).....$7.95*c*

Limiting its discussion to the normal individual, this book is concerned with the age of 30 to senility. Attention is focused on individual problems of the normal, mature, *self-actualizing* man and woman. The scope is the personality growth and development of these individuals through the sowing and reaping years of being, and the process of working with them in planning the last three or four decades. The approach is the psychologist structured, client controlled, study of oneself for purposes of later life planning. A most important feature of this book is the emphasis on communication by several means in order that the individual understand himself and his environment better.

ROEBER, SMITH, AND ERICKSON—Organization and Administration of Guidance Services

By EDWARD C. ROEBER, University of Michigan, GLENN E. SMITH, Michigan State Department of Public Instruction, and CLIFFORD E. ERICKSON, Michigan State University. *Practical Guidance Series.* Second Edition.

294 *pp.*, 6 *x* 9, *illus.* (1955).....$6.50*c*

A complete guide to the school guidance program for use in instituting such a program or in evaluating and improving present guidance services. Here is a detailed and informative analysis of the purposes, problems, and personnel of the guidance program. In relation to the methods and principles discussed, the authors write also of the facilities, personnel, and budget of the guidance program.

CONTENTS—An Introduction. A Review of the Basic Guidance Services. Functions of School Personnel and Organizational Patterns for Guidance Services. Selection Criteria, Training, and Certification of Guidance Workers. Planning for Guidance Services. Organizing the Counseling Service. Organizing the Individual Inventory Service. Organizing the Information Service. Organizing the Placement and Follow-up Services. Administering Guidance Services. Evaluating the Guidance Services. Appendix. Name Index. Subject Index.

STOOPS—Guidance Services

Organization and Administration

Edited by EMERY STOOPS, University of Southern California. Written by WILLIAM A. CARMODY, JACK C. GOODWIN, JOHN CLARKE COSGROVE, RICHARD E. COSGROVE, ISAAC H. MCCLELLAND, HAROLD REED, HARRY SMALLENBURG, and THOMAS W. SMITH.

302 *pp.*, 6 *x* 9, 35 *illus.* (1959).....$6.50*c*

Written for graduate students and those who help to administer guidance services, this book is a veritable storehouse of basic principles and techniques for successfully organizing and administering pupil guidance. The authors have outlined basic principles and procedures which are flexible enough to meet the needs of schools in all parts of the country.

CONTENTS—Organizing the Guidance Program. Improving the Guidance and Instructional Program. Preparing the Master Program to Include Guidance Services. Gaining Support for the Guidance Program. Evaluating Guidance Services. Guidance Personnel and Their Functions. Further Duties of Guidance Personnel. Using Community Resources and Agencies. Individual Inventory Service. Information Services about Environmental Opportunities. The Counseling Services. Placement and Follow-up Services. Proper Planning of Physical Facilities. Budgeting for the Guidance Program.

WARTERS—High School Personnel Work Today

By JANE WARTERS. University of Southern California, Los Angeles. Second Edition.

358 *pp.*, 6 *x* 9 (1956).....$5.95*c*

Brings together in a single volume the important concepts of student personnel work and coordinates these concepts to help school workers handle adequately the pressing problems of student guidance today. The book covers the conditions which create a need for school programs in student personnel work; the historical background of the work; the important principles from sociology, psychology, and other related areas; the basic principles and techniques of student personnel work; the best practices; the current trends; and the needs for improvement.

CONTENTS—THE FOUNDATION. Youth in a Changing Society. Some of the Answers. The Influence of Some Contributing Forces. Some Viewpoints from Psychology and Sociology. Some Emphases from Research in Human Relations. THE PROGRAM. Introduction. Helping the Individual to Be Understood. Counseling the Individual. Helping the Individual to Learn about the World of Work. Helping the Individual to Become Socialized: Student Activities. Helping the Individual to Become Socialized: Group Guidance. Helping the Individual to Progress. Coordinating and Improving the Program. Epilogue. Name Index. Subject Index.

WARTERS—Techniques of Counseling

By JANE WARTERS. University of Southern California, Los Angeles.

384 *pp.*, 6 *x* 9, 22 *illus.* (1954).....$6.50*c*

Covering all the commonly used techniques of student personnel work, this practical, comprehensive volume is valuable for personnel workers at all levels even though the frame of reference here is in the high school and college student.

CONTENTS—The Starting Point. Tests: Some Basic Considerations. Tests: Measures of Intelligence and Achievement. Tests: Measures of Special Aptitudes, Interests, and Personality. Tests: Recording and Reporting Test Results. Observation: Anecdotal Records. Observation: Rating Scales and Behavior Descriptions. Observation: Prevention and Correction. Self-reports: The Personal Data Blank. Self-reports: Evaluation and Follow-up. Self-reports: Self-appraisal and Autobiographical Material. Analysis of the Individual's Position and Status within the Group. The Cumulative Personnel Record. The Case Study. The Case Conference. The Interview: General Purpose and Principles. Procedures in the Counseling Interview. Some Techniques in Environmental Treatment and Group Work.

WILLIAMSON—Student Personnel Services in Colleges and Universities

By E. G. WILLIAMSON, University of Minnesota.

474 *pp.*, 5⅝ *x* 8⅜, 5 *illus.* (1961)....$7.50*c*

This book reassesses and redefines the educational role of personnel services in American higher education. The day-by-day administrative problems and processes of the total personnel program are included. Attention has been given to tracing out the influences of the surrounding society, particularly in the changes of the last half century, bearing upon student life, the problems of students, and the efforts of the colleges to assist students in solving their own problems in connection with their intellectual and personal development. The text

will serve beginning graduate students as a survey-introduction to the student personnel program. It formulates philosophical foundations of certain emerging "new" forms of services and at the same time employs certain available institutional case illustrations of administrative processes and techniques as they were identified in the development of these "new" services.

CONTENTS—Introductory Review of Services and Administration Processes. The Campus Program of Services. The Art of Administration. Structure and Organization of Services. Administering the Program of Services. Some Special Administrative Processes. Administering Discipline and Judiciary Functions. Counseling Services. The Staff as Consultants to Student Organizations. Illustrative Institutional Cases of New Services and Policies. Making Rules and Policies. Maintaining Freedom of Information. The Speaker Policy: Establishing Students' Academic Freedom. Balancing Rights with Responsibilities. Students and Their Relationship with the Administration. Extracurricular Activities as Higher Education.

Clinical Counseling

HAHN AND MacLEAN—Counseling Psychology

By MILTON E. HAHN and MALCOLM S. MACLEAN, University of California, Los Angeles. Second Edition.

302 *pp.*, 6 *x* 9, *illus.* (1955).....$5.95*c*

Organizes into teachable form the basic theories and concepts of clinical counseling and describes the knowledge and skills essential to sound counseling practice. Emphasizes the professional psychologist as a counselor. Progresses from the beginnings of professional training through the principles and tools of the counselor into the nature of the problems which are his major concern.

CONTENTS—Counselors and Counseling. The Philosophy and Ethics of Counseling Psychology. The Nature of Educational-Vocational-Personal Problems. The Tools and Techniques of Counseling. The Tools and Techniques of Counseling (Continued). Aptitudes, Abilities, Skills, and Achievements. Aptitudes and Abilities (Continued). Educational-Vocational Interests. Collection of Data for a Systematic Case Study. A Counseling Interview: Some Implications. Learning, Anxiety Reduction, and Counseling. Prognosis and Prediction. Counseling Psychology and Related Disciplines. Author Index. Subject Index.

SHOSTROM AND BRAMMER—The Dynamics of the Counseling Process

A Developmental Approach to Student Counseling

By EVERETT L. SHOSTROM, George Pepperdine College, and LAWRENCE M. BRAMMER, Sacramento State College.

213 *pp.*, 6 *x* 9, *illus.* (1952).....$5.50*c*

Presents a unified approach to educational-vocational-personal counseling. It aims to fulfil the need for a "how to do it" approach to counseling. At the beginning of the book is a theory of personality and learning upon which the subsequent techniques are based. The practical counseling process is then described in detail. After a discussion of readiness techniques, the text continues with a description of counseling from the initial contact, through the testing and occupational research phases, to the final interview.

CONTENTS—Introduction. COUNSELING: A STUDENT PERSONNEL SERVICE. SELF-ADJUSTIVE COUNSELING: A POINT OF VIEW. SELF-ADJUSTIVE COUNSELING: LAYING THE FOUNDATION. TESTING THE SELF-ADJUSTIVE APPROACH. ESTABLISHING READINESS FOR COUNSELING. THE INITIAL INTERVIEW. THE EXPLORATORY PHASE. THE SYNTHESIS INTERVIEWS. EVALUATING COUNSELING PROCEDURES. ALL-CAMPUS APPLICATIONS. Appendixes: A. Sample Evaluation Interview. B. Verbatim Recording of a Group Orientation. C. Selected References for Counselors. Bibliography. Index.

Elementary Guidance

KOWITZ AND KOWITZ—Guidance in the Elementary Classroom

By GERALD T. KOWITZ, University of the State of New York, and NORMA G. KOWITZ, formerly Michigan State University.

314 *pp.*, 6 *x* 9, 16 *illus.* (1959).....$6.50*c*

Casts the principles of guidance into a framework that will be usable by and useful to the elementary school teacher. The authors suggest procedures and practices helpful to both the teacher and the pupil in the daily operation of the classroom. Theory, presented in the first section, forms a background for and integrates the presentation of the guidance services with teaching and classroom operation.

CONTENTS—Preface. FOUNDATIONS FOR GUIDANCE IN THE ELEMENTARY SCHOOL. Need for Guidance. Goals of Guidance. Special Problems Involved. Guidance, Teaching and Learning. Mental Hygiene. THE GUIDANCE SERVICES IN THE ELEMENTARY SCHOOL. Keeping Records. Testing and Using Test Results. Counseling. Giving Information. Making Referrals. ACTIVATING GUIDANCE IN THE ELEMENTARY SCHOOL. Collecting and Using Pupil Information. Discovering the Child's Problem. Understanding the Child's Problem. Providing Classroom Guidance Activities. Communicating with Parents. Counseling with Parents.

Group Guidance

BENNETT—Guidance and Counseling in Groups

By MARGARET E. BENNETT, Professor Emeritus, San Francisco State College. *Series in Guidance, Couns. & Stud. Pers. in Educ.* Second Edition.

440 *pp.*, 6 *x* 9 (1963).....$7.75*c*

The services with which this book deals are those of helping individuals: to understand themselves and others better; to understand factors in their environment that influence their lives significantly; to envisage the life goals for which they wish to strive; and to achieve skill in self-direction in making choices, decisions, plans, and adjustments in harmony with their growing knowledge of inner and outer forces in their lives, both now and in the future. Since the realization of these objectives involves many learnings, there should be a continuous reciprocal relationship between group and individual counseling. This book is concerned with the group approaches through which this service is rendered. This revision of *Guidance in Groups* is virtually a new book . . . chapter organization has been revamped, new chapters have been added, material has been rewritten, and bibliographies have been revised.

CONTENTS—PART ONE: AN OVERVIEW: The Place of Group Procedures in Guidance. Sources of the Group Approach in Guidance. Common Problems in Living. PART TWO: TECHNIQUES IN GROUP GUIDANCE AND COUNSELING: Group Processes. Group Techniques. Group Counseling. Problems of Personnel. PART THREE: THE AREAS FOR GROUP GUIDANCE: Orientation. Learning to Learn. Understanding Self and Others. Vocational Planning. Educational Planning. Interpersonal Relationships—Approaches. Interpersonal Relationships—Areas and Programs. Life Values and Philosophy. Appendix.

WARTERS—Group Guidance

Principles and Practices

By JANE WARTERS, University of Southern California, Los Angeles, California.

428 *pp.*, 5⅝ *x* 8⅜, 16 *illus.* (1960)..$6.50*c*

This book gives a systematic, well-organized presentation of important psychological and sociological concepts, including fundamental objectives, principles and techniques, and their

achievement and application in specific areas of group work. Detailed explanations of techniques make the text useful as a manual in laboratory or field situations. The material has been used in actual lecture and laboratory situations by the author and significantly put to use in group work situations with a definite degree of success. This book shows how the various parts of the group work program are interrelated, and why work in all areas should be directed toward common guidance goals and governed by certain basic principles.

CONTENTS—Preface. Concepts from Social Psychology. Introduction. Some Psychological Aspects of Groups. Some Psychological Aspects of Leadership. Group Discussion. Sociometric Methods. Sociodrama and Role Playing. Group Counseling (General Purposes and Procedures). Group Counseling (Roles and Methods). Group Guidance in Class and Homeroom. Student Government. Small Recreational Groups. Some Large Group Activities. The Twenty-four Group-school Camps and School Trips.

Vocational Guidance

CALVERT AND STEELE—Planning Your Career

By ROBERT CALVERT, JR., University of California, Berkeley; and JOHN E. STEELE, The Ohio State University.

160 *pp.*, 7¼ *x* 10 (1963).....$3.75*t*
*McG-H Paperbacks Ed.**

Emphasizing the importance of helping students develop their own skill in job seeking techniques, this practical book combines three phases of career development: determination of career goals; location of suitable employment; and satisfactory progress in career development. The book is primarily aimed towards college graduates who are beginning or are in the early years of their career and stresses the period between graduation and age 40, assuming career patterns are established by that age. Written by two college placement officers who have helped thousands of college graduates launch successful business lives, it presents principles and practices tested over the past 15 years. Areas covered include: how to receive the maximum benefit from training programs; effective utilization of college placement offices; how to make your own breaks to win promotions; hiring procedures of civil service agencies; the importance of a personal philosophy in career success.

CONTENTS—PART I. SELECTING YOUR GOAL. Capitalizing on Your College Training. What Have You to Offer Employers? What Is Your Vocational Objective? Which Employers Fit Your Program? PART II. YOUR JOB CAMPAIGN. Summarizing Your Qualifications. Presenting Yourself Through the Letter of Application. Researching the Job Market. Working Effectively with Your College Placement Office. Other Organizations You May Find Helpful. How and When to Apply for a Job. Conducting the Employment Interview. Visiting Employers. Making Your Employment Decision. PART III. EVALUATING YOUR PROGRESS. The First Six Months. Helping Yourself to Promotions. Checking on Yourself. Weathering the Crucial Thirties.

**Available only through your local bookstore.*

HOPPOCK—Occupational Information, 2nd Ed.

By ROBERT HOPPOCK, New York University. *Series in Guidance, Couns. & Stud. Pers. in Educ.*

552 *pp.*, 6 *x* 9 (1963).....$7.95*c*

As in its highly successful first edition, this book identifies the types of occupational information counselors and clients need. The author suggests where to find this information, and how to appraise, classify, and file it. The basic theories of occupational choice, the use of occupational information in counseling, and the ways in which occupational information may be presented to all kinds of groups are thoroughly discussed in an easy-to-read and interesting manner. This edition includes new descriptions of current practice and approximately 200 new bibliographic references. The chapter on theories of vocational choice and development has been completely rewritten and now contains a discussion of the newest theories and research.

McLEAN AND PARIS—The Young Woman in Business

By BETH B. MCLEAN, Associate Professor of Foods and Nutrition, Oregon State University; and JEANNE PARIS, internationally known Home Economist.

318 *pp.*, 5 5/16 *x* 8 (Iowa State Univ. Press, 1962; McG-H Paperback Ed., 1963) $2.35*pb*

This is more than just a description and evaluation of the current scene; actually it is a pleasant, light-going "how-to" book. It tells how to know and analyze yourself for the right job, how to make a good beginning in that job, how to get promotions, how to take care of your financial security, and how to handle the dual role of homemaker and career woman. Witty cartoons depict the woman in her job surroundings.

MYERS—Principles and Techniques of Vocational Guidance

By GEORGE E. MYERS, formerly University of Michigan. *Series in Educ.*

377 *pp.*, 6 *x* 9 (1941).....$6.50*c*

The purpose of this book is to make easier the task of those who have responsibility for assisting youth to choose an occupation, prepare for, enter upon, and progress in it.

CONTENTS—What Is Vocational Guidance? Other Kinds of Guidance. Pupil Personnel Work—Its Nature, Scope, and Relation to Vocational Guidance. The Need for an Organized Program of Vocational Guidance. The School System's Responsibility for Vocational Guidance. The Contriouition of Elementary Education to Vocational Guidance. The Services Involved in a Program of Vocational Guidance in Secondary Schools. The Occupational Information Service. The Self-inventory Service. The Personal Data Collecting Service—General Data, Physical Data, Intelligence Ratings. The Personal Data Collecting Service—Special Aptitudes and Interests. The Personal Data Collecting Service, Personality Characteristics, Social Environment, Achievements, Plans. The Vocational Counseling Service. The Vocational Preparatory Service. The Placement Service. The Follow-up or Adjustment Service. The Research Service. Organization and Administration of the Program. Index.

ROOD—Job Strategy

Preparing for Effective Placement in Business and Industry

By ALLAN ROOD, formerly Harvard University.

281 *pp.*, 5⅝ *x* 8¾, 9 *illus.* (1961)....$5.95*t*

An unusual guide to the strategy of career decisions and job changes containing valuable, tested techniques for planning and conducting a successful career campaign. Written for persons at all age and experience levels—from young men starting on a career to top management executives—it explains and demonstrates, by means of specific examples, important precepts to be observed. The decision to stay put or change jobs is treated thoroughly and a plan is suggested to aid in estimating chances for success on a job. The book contains clear explanations of the conditions that warrant a

job change . . . how to recognize them . . . and under what circumstances a change may best be made.
CONTENTS—Introduction. Taking Inventory. Exploring Your Aptitudes and Interests. Dynamics of Occupational Choice. A Leaf from the Book of Jeremiah. Concept of the Resume. Mechanics of Planning. Idiom of the Resume. Writing the Copy Item-by-Item. All the Items in-between. Making a Production of It. Negotiating the Job Contract. Structuring the Job Interview. Some Thoughts on Job Strategy. Staying Put Versus Changing Jobs. Adapting the Basic Pattern of the Resume. Executive Placement. Memorandum to Management.

SANDERSON—Basic Concepts in Vocational Guidance
By HERBERT SANDERSON, University of Buffalo.
338 *pp.*, 6 *x* 9, *illus.* (1954).....$6.50*c*
Transcends the directive-nondirective dichotomy by postulating a help-centered philosophy vested in the client-counselor relationship. Stressing feeling and motivation rather than fact, this outstanding volume will be valuable to all practicing counselors and trainees.
CONTENTS—Part One. VOCATIONAL GUIDANCE AS A HELPING PROFESSION. The Nature of Vocational Guidance. The Helping Professions. Part Two. SOME DYNAMICS IN VOCATIONAL ASSISTANCE. The Precounseling Phase. The First Interview. Some Specific Dynamics in Vocational Counseling. Part Three. THE VOCATIONAL GUIDANCE PROCESS. The Role of Diagnosis. The Vocational Counselor in Relation to the Guidance Process. Supervision of Counselors and Trainees. Part Four. COUNSELING WITH ADOLESCENTS. Some Aspects of Adolescent Development. Some Principles in Counseling with Adolescents. Helping the Adolescent. Index.

GREENLEAF—Occupations and Careers
By WALTER J. GREENLEAF, U.S. Office of Education.
580 *pp.*, 6½ *x* 9¼ (1955).....$6.96*s*
Designed for an occupations course in high school. Part One concerns the individual—his interests, hobbies, knowledge of local opportunities, how to study occupations, and how to get a job. Part Two concerns individual occupations grouped according to the standard classification of the *Directory of Occupational Titles*. Part Three discusses typical industries. Presented at the end of each chapter are topics for discussion, suggestions for relating school courses to occupations, and a list of books for further reading. Visual Aids List available.
CONTENTS—Part I. Occupational Foresight. Part II. Occupations by Major Groups. Part III. Occupations by Industries. Appendixes A-B-C-D.

Testing

BERDIE, SWANSON, HAGENAH, AND LAYTON—Testing in Guidance and Counseling
By RALPH F. BERDIE, EDWARD O. SWANSON, and THEDA HAGENAH, all of the University of Minnesota; and WILBUR L. LAYTON, Iowa State University. *Series in Guidance, Couns. & Stud. Pers. in Educ.*
286 *pp.*, 6 *x* 9 (1963).....$6.75*c*
For graduate students preparing to become school counselors and also as a manual for practicing counselors. This book defines and explains the role of testing in counseling; so the counselor can assess more effectively the personalities of his pupils. Discussed is the place of counseling in education and in contemporary society and the inter-dependence of testing and counseling. The counseling use of tests is emphasized. This book is designed to help counselors use tests in personality appraisal, helping them use methods and tests developed by specialists. Stressed is that the use of tests is an integral part of counseling. Special topics heretofore not covered in a book of this type include: counselors' relationships with parents, teachers, administrators, and pupils; counselors' ethics; follow-up studies; relationship of occupational information and counseling; interviewing related to testing.

Orientation in Colleges

BENNETT—College and Life
Problems of Self-discovery and Self-direction
By MARGARET E. BENNETT, formerly San Francisco State College. Fourth Edition.
457 *pp.*, 6 *x* 9, 14 *illus.* (1952).....$3.95*c*
Designed to help college freshmen in making their initial adjustment to college. It is also planned to assist them in their education, vocational, and personal planning and adjustment during their entire college course and in life after college. Research and experience in the personnel field have been used as a sound foundation for the text.
CONTENTS—Part I. LIVING IN COLLEGE. College Goals and Values. Learning Self-direction. Your New College Home. Investment of Time and Money. Values in Campus Activities. What Do College Studies Offer You? Part II. LEARNING IN COLLEGE. Learning to Learn. The Nature of Learning. Conditions for Effective Study. Effective Remembering. Using the Library. Effective Silent Reading. Note Taking. Thinking with a Purpose. Appraising Your Progress. Part III. BUILDING A LIFE. The Foundation for Life. The Influences of Environment Methods of Self-appraisal. Making a Personality Inventory. Development of Personality. How to Meet Frustration. Achieving Mental Health. Developing a Life Philosophy. Vocational and Avocational Planning. Planning for Marriage and Home. Achieving Democratic Citizenship.

BENNETT—Getting the Most Out of College
By M. E. BENNETT, formerly San Francisco State College, with the collaboration of MOLLY LEWIN.
411 *pp.*, 6 *x* 9, 7 *illus.* (1957).....$3.50*c*
Written in a non-technical, simple, and informal style, this book will assist college students in getting oriented in college and making the most of their opportunities throughout their college years. It deals with problems of orientation to the college campus and community, the faculty and student body; participation in the college life, development of effective leadership and followership techniques, and study or learning methods; personal adjustment and development; educational and vocational planning; preparation for home, work and civic life; and the development of life values as a basis for a satisfying and serviceable life. Numerous questionnaires or personal inventories have been worked into the text to trigger student participation.
CONTENTS—Preface. Getting Acquainted. What Are You Looking For? Learning to Learn. Learning Self-direction. Learning about Yourself. Charting a Life Plan. Developing a Life Philosophy. Visual Bibliography. Index.

BERNARD—Toward Better Personal Adjustment
By HAROLD W. BERNARD, Oregon State System of Higher Education. Second Edition.
454 *pp.*, 6 *x* 9, 26 *illus.* (1957).....$6.95*c*
Shows the college student how he can improve the state of his mental health. This is an elementary text on personal adjustment and mental hygiene, designed for courses in departments of psychology and education and also for freshman orientation courses stressing adjustment of the student to his new environ-

ment. The interplay in daily life of four major aspects of the human personality are considered: mental, physical, emotional, and spiritual.

CONTENTS—Part I. THE INDIVIDUAL AND MENTAL HEALTH. The Meaning and Importance of Mental Hygiene. Growth Processes and Adjustment. Physical Health and Mental Hygiene. The Role of Attitudes and Habits in Adjustment. Part II. ADJUSTMENTS OF THE COLLEGE STUDENT. Studying Effectively. Improving Mental Efficiency. Psychological Satisfactions. Social Adaptations. Emotional Control and Personal Adjustment. The Maturing Personality. Part III. CONTINUATION OF ADJUSTMENT PROCESSES. Danger Zones of Mental Health. Mental Health Factors beyond Individual Control. Occupational Adjustments. Satisfaction in Marriage. Religion as a Factor in Personal Adjustment. A Positive Program for Personal Adjustment.

HARDEE—The Faculty in College Counseling

By MELVENE D. HARDEE, Florida State University.

391 *pp.*, 6 *x* 9 (1959).....$6.95*c*

Describes the functions of the faculty member as an adviser-to-students and relates faculty advising to the program of total college counseling. It also depicts the faculty member's working relationship with personnel in the student's high school and with his parents. This is the first full-length book on the role of the faculty adviser in college counseling.

CONTENTS—The Coordination of Counseling Services in Colleges and Universities. The Whole Institution and the Whole Student. The Role of the Faculty Member in the Program of Counseling. Promising Programs in Faculty Advisement. The In-service Training of Faculty Members. Persisting Problems in Programs of Faculty Advisement. Decision-making in Faculty Advising. The Non-counseling Faculty Member and the Staff Employee in the Program of Counseling. The Coordination of the Program of Counseling. Central Records: A Key to Coordinated Counseling Services. The Articulation of High School and College Counseling. The Faculty Member in Programs of Orientation, by Orrin B. Powell. Parents in the Program of Coordinated Counseling. The Student Who Assumes Counseling Responsibilities, by Orrin B. Powell. Coordination Effected through the Case Conference. The Coordination of Counseling: A Case Study. Productive Inquiry: Solving the Unsolved. Summary through Query.

STRATTON AND SCHLEMAN—Your Best Foot Forward

By DOROTHY C. STRATTON, Girl Scouts of America, and HELEN B. SCHLEMAN, Purdue University. Revised Edition.

244 *pp.*, 5½ *x* 8 (1955).....$4.75*t*

This book answers hundreds of questions of social usage which today's young people and young adults meet frequently during their daily life. It is addressed to young people with an interest in dating, improving their table manners, entertaining and visiting friends, meeting new people, etc. There are detailed chapters on each phase of good manners: on introductions, techniques for the table, how to conduct oneself in public places, conversation and letter writing, and personal appearance for all occasions. Almost every social problem for young adults is described and discussed. This revised edition has added chapters on engagements and weddings.

WARTERS—Achieving Maturity

By JANE WARTERS, University of Southern California, Los Angeles.

349 *pp.*, 6 *x* 9 (1949).....$5.95*c*

Covers the principal developmental experience of adolescents and youths.

CONTENTS—You and This Book. You and Your Body. You and Others. You and Yourself. Achieving Wholeness and Balance. You and Your Frustrations. You and Your Feelings of Inferiority. You and Your Adjustive Behavior: Adjustment through Goal Attainment and through Substitution. You and Your Adjustive Behavior: Adjustment through Deception and Retreat. Some Characteristics of the Neurotic Personality. You and Your Lifework: Selecting a Vocation. You and Your Lifework: Preparing for, Entering upon, and Progressing in Your Vocation. You and Your School. You and Your Post-high-school Training.

Study Methods

LESLIE, ZOUBEK, AND DEESE—Gregg Notehand

A Personal Use Shorthand with Integrated Instruction in How to Make Notes

By LOUIS A. LESLIE, CHARLES E. ZOUBEK, and JAMES DEESE, Professor of Psychology, Johns Hopkins University.

320 *pp.*, 7¼ *x* 9⅝, *illus.* (1960).....$4.48*b*

Practice Drills and Notemaking Exercises for Gregg Notehand.....$1.80*b*

Records $13.75

A textbook integrating instruction in the techniques of making notes, using a quick, easy-to-learn, brief writing system based on the simple alphabet of Gregg Shorthand. This new, unique contribution to general education improves learning, extends retention, and increases study efficiency through effective techniques of listening, reading, and notemaking. Gregg Notehand, completely non-vocational in objective, is designed as a learning tool for all academic and college-bound students.

CONTENTS—Part I. The Fundamentals of Gregg Notehand and Notemaking—Principles and Practice. What Good Notemaking Can Do for You. Gregg Notehand. Studying and Notemaking. Gregg Notehand. How to Listen and Make Notes. Gregg Notehand. How to Read and Make Notes. Gregg Notehand. How to Put Notes into Your Own Words. Gregg Notehand. How to Use Gregg Notehand in Composing. Gregg Notehand. Part II. Applications of Gregg Notehand and Notemaking—Extended Practice. How to Outline in Notemaking. Gregg Notehand. How to Make Notes for Term Papers and Research. Gregg Notehand. How to Use Notes in Reviewing, Making Derived Notes, Reporting, and Speaking. Gregg Notehand. How to Make Notes at Meetings and Conferences. Gregg Notehand. Key to Gregg Notehand.

LESLIE, ZOUBEK, AND DEESE—Essentials of Gregg Notehand

Intensive Theory and Practice

By LOUIS A. LESLIE, CHARLES E. ZOUBEK, Gregg Publishing Division, and JAMES DEESE, Johns Hopkins University.

192 *pp.*, 7¼ *x* 9⅝ (1961).....$3.75*bc*

New, intensive text-workbook presentation of Gregg Notehand designed especially for adult education and television courses. It is also suitable for self-instruction. Contains 30 lessons —25 for the principles of Gregg Notehand, 5 for the principles of Notetaking. Period self-checks are provided to enable the student to measure his progress. Also provides technical lists with suggested Notehand shortcuts for ten vocations—law, engineering, accounting, etc.

MORGAN AND DEESE—How to Study

By CLIFFORD T. MORGAN, University of California, and JAMES DEESE, University of California at Berkeley.

130 *pp.*, 7¼ *x* 10 (1957).....$1.95*ct*

A brief, practical, self-help book intended for students who are in college or who plan to go. The book surveys all major aspects of studying and learning, including special chapters on studying mathematics, on studying foreign languages, on taking exams, on taking notes, and on where the student can get help. Specific directions and techniques are provided by the authors. Many tests and exercises are designed

to help the student improve without tutoring or formal course work. The book is written in informal style and contains many distinctive illustrations.

CONTENTS—SUCCESSFUL STUDYING. The Art of Studying. College Is Different. Motivation for College Work. GETTING WORK DONE. Value of a Schedule. How to Make and Revise a Schedule. How to Use Your Time. THE STRATEGY OF STUDY. Survey. Question. Read. Recite. Review. READING BETTER AND FASTER. Reading with a Purpose. Using Your Eyes. How to Improve Your Reading. Building a Vocabulary. TAKING NOTES. How to Keep Notes. Underlining and Outlining Textbooks. Taking Lecture Notes. Research Notes. TAKING EXAMINATIONS. Preparing for Examinations. Taking Objective Examinations. Taking Essay Examinations. WRITING THEMES AND REPORTS. Grammar and Writing. Aides to Writing. Using the Library. Writing a Paper. STUDYING FOREIGN LANGUAGES. The General Approach. Techniques in Language Study. MATHEMATICAL PROBLEMS. Arithmetic. Algebra. Doing Problems. Using Graphs and Tables. GETTING HELP AND BEING HELPFUL. Beyond Textbooks. Getting Help. Student Manners. Index.

ORCHARD—Study Successfully

18 Keys to Better Work

By NORRIS ELY ORCHARD. Illustrated by BARBARA BRIDGMAN.

80 *pp.*, 5½ *x* 8, 26 *illus.* (1953) $2.25*jL*

A practical, thoughtful guide on how to study most effectively, written in a lively manner with a keen appreciation of the student's point of view and particular problems. Define keys to make study hours count more, written by the head of the English department of the Loomis School in Connecticut. Full of drawings as lively as the text.

Guidance in Schools

BAILARD AND McKOWN—So You Were Elected!

By VIRGINIA BAILARD, Long Beach, California, Unified School District, and HARRY C. McKOWN, Editor, School Activities. Second Edition.

264 *pp.*, 5½ *x* 8½, 70 *illus.* (1960) . . $4.75*t*†

The Second Edition of this widely used book brings together the ideas and suggestions of students and teachers who have used it for the benefit of young people throughout the country. *So You Were Elected!* is a classic guide for procedure of officers, committees, and club groups connected with the organizations and activities of young people. It presents information in streamlined fashion on parliamentary procedures, duties of officers, procedures for committees, how to handle and account for funds, how to write and place publicity, how to work together, and how to be both a helper and a leader. Part I deals with the hows, whys, and wherefores of leadership, stressing the duties of officers and positions. Part II covers the organization of social events and get-togethers from planning to conclusion.

BAILARD AND STRANG—Ways to Improve Your Personality

By VIRGINIA BAILARD and RUTH STRANG. Illustrated by JANE OLIVER

256 *pp.*, 5½ *x* 8. *Teen ages* (1951) . . $4.50*j*†

A lively discussion of personality problems by two outstanding authorities in the field of guidance. Practical information vitally needed by teen-agers is presented in a brisk informal style that is bound to be popular with them.

CONTENTS—You Have What It Takes. You Can Be Likeable. You Can Be Successful. You Can Have Good Friends. You Can Get Along with Others. You Can Learn to Say the Right Thing. You Can Win More Freedom. You Can Have Poise. You Can Handle Life's Situations. You Can Understand Others. You Can Make a Place for Yourself. You Can Be Happy. Books You Will Like. List of Visual Aids.

DETJEN AND DETJEN—Your High School Days

By MARY FORD DETJEN, Barret Junior High School, Louisville, Kentucky, and ERWIN WINFRED DETJEN, Hazelwood School, Louisville, Kentucky. Second Edition.

256 *pp.*, 5⅜ *x* 8, 94 *illus.* (1958) $3.96*s*

A high school orientation text. Gives the beginning high school student practical help in getting acquainted with his new school and in making the most of his high school days. In warm, friendly style, it gives the student guidance in planning his high school program and choosing his courses, developing good study habits, taking part in homeroom programs and extracurricular activities, making friends, and getting along with classmates and teachers. It discusses also these important problems of high school students: developing a mature personality, improving family relations, looking toward a vocational choice, using leisure time profitably, and building a philosophy of life.

CONTENTS—Your New School. Your Choice of Subjects. Your Personality. You and Your Classmates. Conducting Your Homeroom Meetings. Planning Your Homeroom Programs. Getting Along with Your Teachers. Your Manners. Your Study Habits. Your School Records. Your Leisure Time. Your Part-time Work. You and Your Family. Your Growing Up.

FEDDER—A Girl Grows Up

By RUTH FEDDER, Supervisor of Special Education, Bucks County, Pennsylvania, Public Schools. Third Edition.

310 *pp.*, 5⅜ *x* 8, 21 *illus.* (1957)

Cloth Edition $3.95*j*†
*McG-H Paperbacks Ed.**

Deals with the practical problems of teenagers, such as growing up emotionally, gaining self-confidence, getting along with people, family relations, dating, courtship, and marriage, deciding about a job, using leisure time wisely, and developing a philosophy of life. The style is informal and conversational. 21 original drawings emphasize important ideas. The author's purpose is not to offer specific solutions to adolescent problems, but to guide girls in thinking through and solving their own problems. A teaching-and-learning aid—*Try These on Yourself*—occurs at the end of each chapter and is divided into three parts: "What Do You Think?" which includes discussion questions, case studies, and multiple-choice items; "How Grown Up Are You?" which uses a variety of techniques for evaluating progress in growing up; and "Helping Yourself" which guides in planning individual self-improvement programs.

* *Available only through your local bookstore.*

LANDIS—Your Dating Days

Looking Forward to Happy Marriage

By DR. PAUL H. LANDIS, State College of Washington. Illustrated with *charts* and *diagrams.*

155 *pp.*, 5½ *x* 8. *Teen ages* (1954) . $2.95*jdL*

Discusses all the questions about dating, love, and preparation for marriage of serious concern to young moderns everywhere. Developed from the author's pioneering text on *Marriage and Family Living*, which helped to establish family life education in the schools and written

† *Textbook edition available at educational list price.*

with a simple direct approach in which young people find their own thinking reflected.

SULKIN—Complete Planning for College
By SIDNEY SULKIN.
320 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.50*td*
The questions of what to do after high school and how to choose a college are of great concern to today's high school students. Here is a book which answers every question a young person may have and which his parents will be reading over his shoulder. The complete and readable guide tells how to prepare for college, what you need to know about college admission tests, how to tell what kind of college is best for you, what to do if you are not accepted and what the average as well as the superior student should do. The book substitutes fact for mythology and tells how to plan—from the high school courses the student should take, to choosing the right college, financing and career planning—using straight, accurate, up-to-date information. Sidney Sulkin is Senior Editor of *Changing Times*, the Kiplinger Magazine.

TROW, ZAPF, AND McKOWN—The Junior Citizens Series
By WILLIAM CLARKE TROW, University of Michigan, ROSALIND M. ZAPF, Edwin Denby High School, Detroit, Michigan, and HARRY C. MCKOWN, *School Activities*. Second Edition.
Each book, *paper*, 8 *x* 10½, *illus.* (1951) $1.32*s*
Getting Acquainted with Your School, 69 *pp.*
Recreation and Leisure, 72 *pp.*
Student workbooks for Grades 7, 8, and 9, designed to help teachers give instruction in character and citizenship education, wholesome attitudes, and intelligent points of view, by considering interpersonal problems not generally included in regular school subjects. Carefully prepared by experienced educators, based on sound psychological principles, and tried out and revised in the light of classroom use, these books help students to work out answers to problems for themselves, presenting material through concrete situations with which junior high school children are familiar.

Physical Education and Recreation

Physical Education

EVANS, BACON, BACON, AND STAPLETON—Physical Education for Elementary Schools
By RUTH EVANS, Springfield College, MARY E. BACON, Homer Street School, Springfield, Mass., THELMA I. BACON, Grades 1–8, Springfield, Mass., and JOIE F. STAPLETON, University of Kansas. *Series in Health Educ., Phys. Educ. & Rec.*
317 *pp.*, 6 *x* 9, 101 *illus.* (1958).....$6.50*c*
A "methods" text for the elementary physical education course, written by an experienced group of school and college teachers. The book is intended as a guide for classroom teachers, a text in teacher training colleges, and an inspiration for in-service training. Emphasis is on the importance of teaching physical education not as an isolated subject but as an integral part of the total school program. Here is a philosophy of physical education as it relates to elementary education in general.
CONTENTS—Consulting Editor's Preface. Preface. I. PLANNING THE PROGRAM. The Open Door. Enter Physical Education. Setting the Stage: Planning and Procedures Adaptable to All Age Groups. Enriching the Learning Process. II. DEVELOPING THE PROGRAM. Program for the Five and Six-year-olds. Program for the Seven and Eight-year-olds. Program for the Nine and Ten-year-olds. Program for the Eleven and Twelve-year-olds. III. EXTENDING THE PROGRAM: SPECIAL CONSIDERATION. The Noon Hour. Rainy Days. Community Relations through Special Programs. Appendix. Index.

KNAPP AND HAGMAN—Teaching Methods for Physical Education
A Textbook for Secondary School Teachers
By CLYDE KNAPP, University of Illinois, and E. PATRICIA HAGMAN, formerly Teachers College, Columbia University. *Series in Health Educ., Phys. Educ. & Rec.*
386 *pp.*, 6 *x* 9, *illus.* (1953).....$6.50*c*
Deals with the underlying factors and principles related to the selection and use of teaching techniques and procedures. It presents a wide variety of basic teaching techniques and procedures.
CONTENTS—ORIENTATION. Introduction. The Role of Method in Education. BASES TO METHOD. Introduction. The Nature of Learning. Physical Education and the Nature of Adolescents. The Objectives of Education and Physical Education. Programs of Physical Education. BASIC CONCEPTS AND TECHNIQUES OF METHOD. Introduction. Basic Types of Method. Basic Teaching Procedures. Instructional Planning. Use of Audio-visual Materials. TECHNIQUES OF METHOD APPLIED. Introduction. Procedures for Class Instruction. Procedures for Extraclass Instruction. Procedures for Special Types of Activities. RELATION OF METHOD TO SUPERVISION, ADMINISTRATION, AND EVALUATION. Introduction. Method and Supervision. Method and Administration. Method and Evaluation. Index.

Kinesiology

METHENY—Body Dynamics
By ELEANOR METHENY, University of Southern California. *Series in Health Educ., Phys. Educ., & Rec.*
225 *pp.*, 6 *x* 9, 53 *illus.* (1952).....$5.50*c*
A practical guide to posture and mechanical efficiency of the human body. Points the way to better deportment and conditioning as essentials of grooming and personal development. The theme of the book is "maximum results with minimum effort." This theme is developed first in relation to the deliberate expenditure of human energy in exercises to accomplish specific changes in body function. Next, the theme is developed in relation to the conservation of human energy in standing, walking, working, sitting, and resting.
CONTENTS—Basic Structures. THE EXPENDITURE OF ENERGY. The Uses of Exercise. Exercise and Relaxation. Exercise and Abdominal Function. Exercise and Weight Control. THE CONSERVATION OF ENERGY. The Balanced Posture: Standing. The Balanced Posture: Walking. The Balanced Posture: Working. The Balanced Posture: Sitting. The Balanced Posture: Evaluation.

Sports

SCHARFF—Complete Boating Handbook
By ROBERT SCHARFF.
250 *pp.*, 6 *x* 9, *illus.* (1955).....$6.95*t*
A complete handbook that gives all the facts on making, sailing, navigating, and caring for

small craft. It contains information on nautical terms for the uninitiated; how to buy the right boat and motor; how to care for and maintain a boat; how to repair a motor, handle the boat, navigate and pilot it; and on safety afloat, on stocking the boat, planning a cruise. Illustrated with over 150 photographs, charts, and tables and a complete index to cruising waters of all the 48 states.

BATEMAN AND GOVERNALI—Football Fundamentals

Basic Strategy and Teaching Methods

By JOHN F. BATEMAN, Rutgers University, and PAUL V. GOVERNALI, San Diego State College.

284 *pp.*, 6 *x* 9, 347 *illus.* (1957).....$6.50*t*

This book will provide instructors of football in schools and colleges with the essential fundamentals and techniques for producing well-coached football teams. The authors list common errors in football techniques, and explain how to correct them. The book is completely up to date and covers the most modern aspects of football as played by teams using the T, the Split-T, those featuring the Belly and Drive Series, and those employing the Wing Back Formations. Novel in such a text is the authors' treatment of the coach as educator and faculty member.

CONTENTS—Foreword by Lou Little. Preface. The Administration of the Football Program and the Men Responsible for Its Conduct. Fundamentals of Line Play. Offensive Fundamentals of Backfield Play. Defensive Fundamentals of Secondary Play. Passing in Modern Football. Kicking in Modern Football. Running in Modern Football. Standard Defenses for Basic Offensive Formations. Index.

DANTE, DIEGEL, AND ELLIOTT—The Nine Bad Shots of Golf: What to Do about Them

By JIM DANTE, President of the New Jersey P.G.A., and LEO DIEGEL, American P.G.A. Champion, in collaboration with LEN ELLIOTT, *Newark Evening News.*

189 *pp.*, 5½ *x* 8, 57 *illus.* (1947)....$4.75*td*

If you number among the many golfers who have trouble with some of their shots, this truly unique book can be of immediate and invaluable service to you. These experts, through years of action and first-hand observation in the golfing field, have been able to break down the major mistakes that all golfers may make to nine basic bad shots. All this information is set forth in an informal, direct, and outstanding graphic manner which will be of practical assistance to any golfer.

DANTE AND ELLIOTT—The Four Magic Moves to Winning Golf

By JOE DANTE and LEONARD ELLIOTT.

240 *pp.*, 5⅜ *x* 8, *illus.* (1962).....$4.95*td*

A basic instructional book for the man or woman who wants to break 80, here is the perfect solution for all golfers wishing to identify, analyze, and correct their mistakes, as well as keep a complete check of their movements and positions. Properly applied, the techniques in *Anybody Can Break 80* will teach a perfect swing to the average golfer. The authors point out the fatal flaws which occur at various stages of the stroke, and show how they can be avoided by a series of positive moves which develop into a whole new concept of the swing. This system embodies a revolutionary method of taking the club back from the ball and applies a principle of physics never before connected with golf. More than 50 illustrations showing actual techniques. Joe Dante, a golf pro, is the son of Jim Dante, who wrote the famous *Nine Bad Shots of Golf.* Len Elliott is the Sports Editor of the *Newark Evening News.*

SMITH—Sports

Edited by ROBERT SMITH.

320 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$5.95*td*

These stories selected from the pages of *Sports Illustrated* re-create the great plays, the great players, and the great moments in the past ten years of sports. The finest sports writers in the land share with readers all the high excitement of a bitterly contested footrace, the fierce man-to-man battling of the best pro-football game ever played, the merry nonsense that marked the end of a baseball legend, and the heartening comeback of a great boxer—all reported here in flashing detail. Some of the warmest personalities in sports, and some of the most memorable live once more in these pages.

SWEENEY—Skin Diving and Exploring Underwater

By JOHN SWEENEY.

176 *pp.*, 5½ *x* 8, *illus.* (1955).....$3.95*td*

During the past few years, thousands of Americans have discovered a new sport—exploring the "silent world" of underwater life with mask, flippers, aqualung, and spear. This is a how-to book written for these "skin divers" and in it Mr. Sweeney, himself a professional diver, tells in detail what equipment is needed, how to care for it, use it; how to gain experience with face mask and flippers in shallow dives; how to use the aqualung and spear. Includes information on underwater rescue, safety, the sea, the ocean floor, the teeming marine life that divers can witness, exploring, underwater photography, scientific collecting, planning a diving expedition, depth and pressure timetables, compression tables, and a summary of accidents and their prevention.

TORNEY—Swimming

By JOHN A. TORNEY, JR., University of Washington. *Series in Health Educ., Phys. Educ., & Rec.*

315 *pp.*, 6 *x* 9, 123 *illus.* (1950)....$5.50*c*

This book provides material for courses dealing with swimming techniques, teaching methods, program administration, life-saving and team activities, and safety programs for school and community. All the major aspects of a complete aquatic program are covered.

CONTENTS—Highlights of Swimming History. Basic Considerations in Program Planning. Safety. Administering the Instruction Program. Sanitation and Hygiene. Administrative Tasks and Problems. Teaching Swimming. The Nonswimmer. The Beginner. The Swimmer. Special Skills. Testing. Special Programs. The Intramural Program. The Varsity Program. Spirit. The Administration of Competition. Games, Stunts, and Relays.

KENNEY AND LAW—Wrestling

By HAROLD E. KENNEY, University of Illinois, and GLEN C. LAW. *Series in Health Educ., Phys. Educ., & Rec.*

167 *pp.*, 6 *x* 9, 102 *illus.* (1952)....$4.95*c*

Covers wrestling from the very fundamentals to the more complicated holds and maneuvers. All offenses are organized into steps and these steps are listed in outline form. Holds that have become popular in college wrestling are covered.

CONTENTS—Introduction. Why Sponsor Wrestling in the School Program? Football Coaches Favor Wrestling. CONDITIONING PROCEDURES. Developing Endur-

ance, Speed, and Balance. Conditioning Exercises. Preseason Training. Training during Actual Wrestling Season. Weight Reduction. Food before the Match. The Day of the Contest. Warming Up before a Match. METHODS OF TAKING OPPONENT TO MAT. Feinting. Direct Methods of Taking an Opponent Off His Feet. Indirect Methods of Taking an Opponent Off His Feet. Taking an Opponent to the Mat after Getting Behind. General Comment. METHODS OF MAINTAINING ADVANTAGE. Arm Hold-downs. Leg Hold-downs. General Comment. METHODS OF ESCAPING AND REVERSING. PINNING HOLDS. CARE OF COMMON WRESTLING INJURIES. FACILITIES AND EQUIPMENT. BUILDING A WRESTLING PROGRAM. Stimulating Interest. Index.

VINSON—Primer of Figure Skating
By MARIBEL Y. VINSON.
182 *pp.*, 5⅝ *x* 8, *illus.* (1938–1963).$2.45*pb*
For those who want to skate for amusement and exercise. Advises on the selection of equipment and explains and illustrates every stage in the fifteen school figures, an additional number of free skating moves, and the four important ice dances.

Recreation

BUTLER—Introduction to Community Recreation
Prepared for the National Recreation Association by GEORGE D. BUTLER. Third Edition.
562 *pp.*, 6 *x* 9, 81 *illus.*, 6 *charts* (1959) $7.95*c*
Long a standard in its field, the new edition of this text has been extensively revised to present a true picture of community recreation in the United States. As in the previous edition, the book outlines the growth of the community recreation movement and describes the activities and services comprising the community recreation program, the indoor and outdoor areas and facilities used for recreation, the leadership personnel, and its methods of organizing and conducting activities. Recent changes affecting recreation such as population growth, increase in leisure time, and automation are discussed as well as revised national standards of recreation leadership, new examples of local programs, and developments provided by government, private, and commercial agencies.
CONTENTS—Preface. RECREATION—ITS NATURE, EXTENT, AND SIGNIFICANCE. What Is Recreation. The Importance of Recreation. Agencies Providing Recreation. Recreation—A Function of Local Government. The History of Municipal Recreation in the United States. LEADERSHIP. Recreation Leadership. Recreation Department Personnel. Education for Recreation Leadership. Selecting and Maintaining the Leadership Staff. Volunteer Service in the Recreation Department. AREAS AND FACILITIES. City Planning for Recreation. The Design and Equipment of Recreation Areas. Planning Special Areas and Structures. ACTIVITIES AND PROGRAM PLANNING. Recreation Activities. Program-planning Principles and Methods. Organizing and Conducting Recreation Activities. THE OPERATION OF AREAS AND FACILITIES. The Operation of Playgrounds. The Operation of Recreation Buildings and Indoor Centers. The Operation of Recreation Facilities. PROGRAM FEATURES AND SERVICES. Arts and Crafts. Athletics, Games, and Sports. Drama. Music. Nature, Gardening, and Outdoor Activities. Other Program Features. Service to Special Groups. Typical Community Recreation Programs. ORGANIZATION AND ADMINISTRATION PROBLEMS. The Legal Aspects of Community Recreation. Municipal Organization for Recreation. Organization of the Recreation Department. Financing Recreation. Records, Reports, and Research. Public Relations. Cooperation and Relationships in the Public and Private Groups. Bibliography. Index.

KRAUS—Recreation Leader's Handbook
By RICHARD KRAUS, Teachers College, Columbia University. *Series in Health Educ., Phys. Educ., & Rec.*
299 *pp.*, 6 *x* 9, 78 *illus.* (1955).....$6.95*c*
A practical handbook of methods and materials for recreation leaders working with groups of varying size and of different ages, and offering a wide variety of sure-fire play activities, active and inactive games and mixers, folk and square dances, social-dance icebreakers, informal dramatic activities, and community singing programs. The author combines, in a single volume, an understanding of the background of social recreation in this country, the role of recreation in everyday life, leadership techniques in working with recreation groups, and a wide variety of materials.
CONTENTS—SOCIAL-RECREATION LEADERSHIP. Social Recreation in America. The Leader's Approach to the Group. Program Planning. SOCIAL-RECREATION ACTIVITIES. Games, Stunts, and Mixers. The Dance in Recreation. Square Dances New and Old. Folk Dances and Social-dance Mixers. On Stage! Let's Sing Together. SUGGESTED READINGS. FOLK- AND SQUARE-DANCE AIDS.

LAIRD—Be Active and Feel Better
What You Can Do about Sedentary Living
By DONALD A. LAIRD and ELEANOR C. LAIRD.
198 *pp.*, 5⅜ *x* 8 (1962).....$4.95*td*
Written as a dependable guide for persons in every age group, the Lairds' new book discusses the ways in which soft living reduces fitness, not only the heart and circulation, but one's well being, and mental efficiency, and joy of living as well. In explaining the effects of sedentary living on the production of energy, the authors point out the dangers and corrective measures. Instead of the traditional boring exercises, muscle builders, and weight reducers, the Lairds explain how to get exercise in daily opportunities—on the office stairs, with loaded brief cases, in purposefully reaching for a phone, and in sitting properly in a chair. The book will be greeted with enthusiasm by the "nation of spectators," as President Kennedy called us, and will find a lively audience among physical education, recreation, and health leaders.

SELF—Riding with Mariles
The Unique System of General C. Umberto Mariles in Training Horses and Their Riders
By MARGARET CABELL SELF.
135 *pp.*, 6 *x* 9 (1960).....$4.50*t*
Ever since 1937, General Mariles of the Mexican Army and the teams trained by him have steadily carried off top honors in the major riding and jumping competitions of the world. Here for the first time is described the unusual method of riding and training which brought his teams such fantastic success. The well-known writer about horses, Margaret Cabell Self, analyzes the unique system by which General Mariles obtains exquisite control and precision with the horse, and the program he uses to train both horse and rider. Many illustrative drawings help make the General's methods clear.

Industrial Arts, Crafts, and Hobbies

McGRAW-HILL PUBLICATIONS IN INDUSTRIAL ARTS

(Pub. in Indsl. Arts)

C. H. Groneman, Consulting Editor

Buban and Schmidt—Understanding Electricity and Electronics
Coover—Industrial Arts Drawing and Blueprint Reading
Feirer—General Metals
Groneman—General Woodworking
Groneman and Feirer—General Shop
Jackson—Printing
Roy—Ceramics

Commercial Art

BENSON AND CAREY—The Elements of Lettering

By JOHN HOWARD BENSON, The John Stevens Shop, and ARTHUR GRAHAM CAREY. Second Edition.

135 *pp.*, 7¼ *x* 9⅞ (1950).....$7.75*t*†

Theoretical, practical, and historical phases of lettering illustrated with examples of fine lettering for those in the field of printing and advertising.

CONTENTS—Foreword. Book One: The Theoretical Elements. The General Problem. The Particular Problem. The Problem of Work. Book Two: The Practical Elements. Image. Technique. Purpose. Book Three. The Historical Elements. The Ancient World. The Medieval World. The Modern World. Afterword. Bibliography. Index.

Crafts

BAXTER—Jewelry, Gem Cutting, and Metalcraft

By WILLIAM T. BAXTER. Third Edition.

360 *pp.*, 5½ *x* 8, *illus.* (1950).....$7.50*t*

Guide for the student and home craftsman. Includes a section on faceting, and detailed instructions for hard soldering and the "lost wax" method of casting. Approximately 175 diagrams and photographs.

CONTENTS—Metalcraft. Jewelry Making. The Art of Gem Stone Cutting. Identification of Gem Stones and Gem Materials. Dealers.

BIRDSALL—Do It Yourself with Aluminum

By G. W. BIRDSALL, Reynolds Metal Company.

136 *pp.*, 6 *x* 9, *over* 250 *illus.* (1955).$4.50*t*

Working directions, shop kinks, and short cuts to help the home craftsman get the most out of the versatile material, Do-It-Yourself-Aluminum. Recommended methods are given for fabricating, joining, fastening, and finishing this metal with ordinary woodworking tools found in any home workshop. Also given are instructions for making more than 100 useful home items of aluminum.

CONTENTS—HOW TO WORK WITH ALUMINUM. "Do-It-Yourself Aluminum"—the Material. Shop Kinks and Shortcuts. Bending. Forming. Shaping. Joints and Fastening Methods. Surface Finishing. THINGS TO MAKE. Projects for the Workshop. Projects for the Kitchen. Projects for the Dining Room. Projects for the Bedroom. Projects for the Study Den. Projects for the Living Room. Projects for the Porch, Terrace, Lawn. Projects for Home Improvements. Projects for the Children. COST ESTIMATING AND SPECIAL SOURCES OF MATERIAL. Cost Estimating and Special Sources.

ROY—Ceramics

An Illustrated Guide to Creating and Enjoying Pottery

By VINCENT A. ROY, formerly The Art School, Pratt Institute, Brooklyn, New York. *Pub. in Indsl. Arts.*

288 *pp.*, 7¼ *x* 9⅞ (1959).....$7.75*t*†

Presents the essentials of ceramics for the beginning student of pottery, giving him a broad idea of the processes involved and enabling him to make satisfactory progress in creating pottery ware. The book takes up topics in the order of their importance to the beginner, giving him material and information that will help him first make progress and then develop manipulative skill and appreciation. The photographs throughout the book show actual industrial processes employed by leading makers of pottery ware. The book includes units on judging ceramics for good design, preparing and using clay, making molds, simple modeling, planning a piece of pottery, developing a pattern, decorating green, bisque, and glazed ware, preparing and applying glazes, using the kiln safely in firing, applying enamel, and finishing an enameled piece. Among the suggested projects are building dioramas, making trays, dishes, and ceramic jewelry, modeling chessmen and masks, and building a potter's wheel.

CONTENTS—What Is Ceramics? Constructing. Designing. Decorating. Glazing. Firing. Enameling on Metal. Suggested Projects and Activities. Related Information. Correlated Visual Aids. Suggested Bibliography.

SHOENFELT—Designing and Making Handwrought Jewelry

By JOSEPH SHOENFELT.

244 *pp.*, 5⅜ *x* 8, *illus.* (1960).....$4.95*t*
*McG-H Paperbacks Ed.**

With this book as a guide, anyone can learn to make beautiful and original hand-wrought jewelry. The author describes a step-by-step approach to design, and to the making of simple jewelry with copper and silver wire, listing basic tools. More advanced techniques and instructions follow for polishing, finishing, buffing, annealing, soldering, cutting, drilling, hammering, and shaping. The full directions include sources of semi-precious stones, excellent professional short-cuts and time-savers, and suppliers for amateurs, professionals, and hobbyists.

** Available only through your local bookstore.*

Industrial Arts

BUBAN AND SCHMITT—Understanding Electricity and Electronics

By PETER BUBAN, Quincy, Illinois, and MARSHALL SCHMITT, Washington, D. C. *Pub. in Indsl. Arts.*

456 *pp.*, 7½ *x* 9¼, 801 *illus.* (1962).$8.50*t*†

This book is designed for students who are taking their *first course* in industrial arts electricity or electronics. It may be used for one semester or a full year. It is the first text that successfully combines an introductory course in electrical and electronic theory with basic information about the tools, materials, processes, and occupations of the electrical and

† Textbook edition available at educational list price.

electronics industries. It introduces many principles usually taught in high school physics, explains how these principles operate in familiar appliances and equipment, and shows the student how to plan and build shop projects. About 800 carefully selected illustrations help to make the text understandable and interesting. Questions for discussion follow each unit. Where pertinent, experiment-type activities for demonstration by the student or teacher, reenforce the learning points of the units. There are also "Extra Credit Assignments" to challenge the better students. Easy to read, with double-column format, the book uses a second color—red—to emphasize teaching points in text and illustrations. The 62 lesson units are grouped into 10 sections.

SECTION HEADINGS—Introduction. Materials, Tools, and Processes. How Electrons Flow. Electrons at Work. Sources of Electric Energy. Electrical Tests and Measurements. Common Electrical Equipment. Communication Systems (Telegraph, Telephone, Radio). Radar and Television. Living in the Electronic Age. Suggested Projects.

COOVER—Industrial Arts Drawing and Blueprint Reading

By SHRIVER L. COOVER, State Teachers College, California, Pennsylvania, and University of Pittsburgh. *Pub. in Indsl. Arts.* Second Edition.

320 *pp.*, 7½ *x* 9¼, 475 *illus.* (1961)..$4.96*s*

This book—the Second Edition of Coover's *Drawing, Sketching, and Blueprint Reading*—has been completely rewritten in simple language to meet the 7th grade reading level. It provides a broad, introductory course for students who wish to learn how mechanical drawing is done by draftsmen in industry and in the industrial arts shop. Throughout, it places emphasis on giving the student an understanding of drawing principles before introducing him to drawing techniques. The Second Edition provides many short learning units, and defines and illustrates a large number of drawing terms in the Blueprint Reader's Dictionary. The section—"Why We Make Mechanical Drawings and Technical Sketches"—gives the student an overall picture of mechanical drawing and where it may be used. The section on "Dimensioning a Sketch" enables students to make useful sketches early in the course. The architectural drawing section has been completely revised by an architect with a teaching background. A new section—"How to Grade Your Drawing"—takes the mystery out of grading and provides a scale for the student's use. The new edition includes hundreds of new illustrations and uses a second color for both text and illustrations.

CONTENTS—1. Why We Make Mechanical Drawings and Technical Sketches. 2. Elementary Blueprint Reading. 3. Simple Sketching. 4. The Shop Sketch. 5. Dimensioning a Sketch. 6. Sketching Pictorial Circles. 7. The Draftsman's Tools. 8. Multiview Projection. 9. Lettering. 10. Dimensioning. 11. Drawing and Planning for Woodworking. 12. Drawing and Planning for Sheetmetal Work. 13. Practical Geometry. 14. Sectioning. 15. Advanced Blueprint Reading. 16. Industrial and Machine Drawing. 17. Fasteners. 18. Architectural Drawing and Home Planning. 19. Drawing and Planning for Electricity and Electronics. 20. Pictorial Drawing. 21. Graphs and Charts. 22. Advanced Problems. 23. Blueprint Reader's Dictionary. 24. How to Grade Your Drawing. 25. American Standards.

FEIRER—General Metals

By JOHN L. FEIRER, Western Michigan University *Pub. in Indsl. Arts.* Second Edition.

384 *pp.*, 7½ *x* 9¼, 606 *illus.* (1959)..$5.88*s*

Workbook $1.56*s*

Correlated Text-Film Filmstrip Series—six 35mm filmstrips.....each $6.00
set $32.50

The Second Edition of this basic textbook in metalworking presents the new materials and techniques, and the new processes of the rapidly changing metalworking industry, and takes account of improved methods of cutting, shaping, forming, and joining metals. It is based on the recommendations of hundreds of teachers using the book in their classes. Some of the major changes include: new units on machine bending and forming, metal enameling, spot welding, and the milling machine; new technical information on metalworking practices, and on metals, materials, and processes; enlarged and new material on foundry, welding, and machine shop; and about 300 new illustrations, with a second color added to most of the drawings to improve teaching effectiveness—the important idea or key part of each drawing in red. The new edition retains all the features which have made this book so well-liked by teachers and students.

CONTENTS—Metalworking. Bench and Wrought Metal. Sheet Metal. Art Metal and Jewelry. Metal Spinning. Forging. Heat Treating. Foundry. Welding. Machine Shop. Metals in Everyday Living. Suggested Projects.

GRONEMAN AND FEIRER—General Shop

By CHRIS H. GRONEMAN, Professor and Head, Industrial Education Department, School of Engineering, The Agricultural and Mechanical College of Texas, and JOHN L. FEIRER, Head, Industrial Arts Department, Western Michigan University. *Pub. in Indsl. Arts.* Third Edition.

480 *pp.*, 7½ *x* 9¼, 1176 *illus.*.....$5.40*s*

This new edition is completely revised, expanded, rewritten, and newly illustrated to reflect technological changes in industry and industrial arts curriculum in secondary schools. The latest concepts in design and application of design principles to the industrial arts laboratory are presented in 60 projects—including working drawings, pictorials, and descriptions. There is a completely new section on power mechanics. The use of red as a second color adds further clarity to the vivid illustrations and emphasis to the safety rules. The project section is organized so students can construct various projects using the specifications given in the text, or can alter the designs given in the text, or can design projects of their own based upon those presented in the text.

CONTENTS—Introduction to Industrial Arts. Drawing and Planning. Woodworking. Metalworking. Electricity. Power Mechanics. Leathercraft. Plastics. Ceramics. Home Maintenance. Projects.

JENSEN AND MASON—Drafting Fundamentals

By CECIL H. JENSEN, R. S. McLaughlin Collegiate and Vocational Institute, Oshawa, Ontario, and FREDERICK H. MASON, Anderson High School, Whitby, Ontario.

In Press

This textbook has been designed to meet the needs of junior drafting students. The basic teaching procedure used in the book follows 3 steps: information and explanation; illustration through examples and pictures; and application of the information through projects assigned to the student. A generous sampling of review questions and problems follows each chapter. The book's appendix includes: a) Charts on decimal equivalents, drill sizes, fits,

† Textbook edition available at educational list price.

gauge numbers for sheet metal and wire, key and keyway sizes, standard pipe dimensions, surface roughness ranges, threads, bolts, nuts, machine screws, washers and woodscrews; b) A glossary of shop, house-building, and electrical terms; c) A list of common abbreviations.

CONTENTS—The Language of Industry. Development of Drafting Skills. Geometrical Constructions. Theory of Shape Description. Working Drawings. Assembly Drawings. Sectioning. Auxiliary Views. Pictorial Drawing. Development Drawing and Intersections. Architectural Drafting. Electrical Residential Circuiting. Blueprint Reading.

NEUNDORF AND STEVENS—Sheet Metal Practice. Unit I

By W. NEUNDORF, Bathurst Heights Collegiate and Vocational School, Toronto, Ontario, and C. STEVENS, Western Technical and Commercial School, Toronto, Ontario.

104 *pp.*, 7¾ *x* 9½, *illus.* (*Wiro-bound*) *In Press*

The first in a new series of manuals designed for the high-school vocational sheet metal course. Beginning with a chapter on shop safety, the book goes on to provide an introduction to the various metals used in the shop, and their many applications. Further chapters cover the use and operation of hand, bench, and floor tools. The book also contains a series of assignments which the teacher may use for homework or for class discussion. An outstanding feature of the text is a section containing 18 sheet metal projects for the classroom, or the home workshop. Complete in every detail, each project includes a drawing of the finished article, working drawings, a bill of material, and fabrication instructions.

CONTENTS—1. Introduction to Sheet Metal. 2. Shop Safety Rules. 3. Common Sheet Metals. 4. Sheet Metal Hand Tools. 5. Solder and Fluxes; Using a Soldering Iron. 6. Straight Cutting and Notching. 7. Foot-Operated Squaring Shears; Securing a Working Edge. 8. Bar Folder. 9. Standard Hand Brake. 10. Box and Pan Brake. 11. Slip Roll Forming Machine. 12. Drill Press. 13. Bench Stakes. 14. Grooved Seam; Using the Hand Groover. 15. Wire; Wiring a Straight Edge. 16. Hand Punch. 17. Projects. 18. Review Questions.

Industrial Design

KNOBLAUGH—Modelmaking for Industrial Design

By RALPH R. KNOBLAUGH. Harper Landell and Associates.

272 *pp.*, 6⅝ *x* 9¾, 284 *illus.* (1958) . $11.00*i*

Thorough manual of modelmaking for the industrial and product design fields. Covers a wide range of models simulating industrial products, using such materials as plaster, plastics, clay, metal, ceramics, and wood. Shows modelmaking jobs as they would come to the reader in the shop with existing conditions described, and how to plan and lay out the work, determine the materials and processes to be used, process the parts, assemble them, and finish the model.

CONTENTS—The Sphere of the Modelmaker. Industrial Design Models. Planning and Layout. Plaster. Plaster Casting: One-piece Molds, "Piece Molds," Casts. Plaster Casting—Reinforced Casts. Closed Molds. Elastic Molds. Patching, Cleaning, Checking, and Truing. Fabricated Plaster Models: Wet Forming. Fabricated Plaster Models: Dry Forming. Fabricated Plaster Models: Methods of Joining. Fabricated Plaster Models: Step-by-step Procedure. Wood. Plastics. Metal. Finishing Presentation Models: Materials and Equipment. Finishing Presentation Models: Techniques. Color Theory for the Modelmaker. Changing and Repairing Models. Power Tools and General Equipment. The Model Shop.

VAN DOREN—Industrial Design

A Practical Guide to Product Design and Development

By HAROLD VAN DOREN. Second Edition.

379 *pp.*, 6⅝ *x* 9⅞, *illus.* (1954) $11.50*i*

Describes the principles, techniques, and procedures for preparing mass-produced, three-dimensional products for market, from preliminary research to final prototypes and consumer testing. This completely revised edition, containing a wealth of illustrations, covers such topics as design planning, basic elements of three-dimensional design, rendering, and model making.

Drawing

BLACK—Landscape Sketching

By ARTHUR BLACK, Central Park School of Art.

109 *pp.*, 7 *x* 10, *illus.* (1950) $5.75*t*

In this easy-to-use book, Mr. Black presents first a series of fundamental strokes, which teach facility with the pencil. These strokes are then applied to the various component parts of a landscape, with the result that the reader is soon producing a real sketch. The book takes the reader step-by-step through a mastery of perspective, values, planes, shadows, and composition. Mr. Black's method of teaching produces quick results and real facility in drawing. Illustrated with over 100 line drawings.

BRADBURY—Anatomy and Construction of the Human Figure

By C. EARL BRADBURY, University of Illinois.

212 *pp.*, 8½ *x* 11, *illus.* (1949) $8.75*c*

A book presenting an original and distinguished contribution to the literature on life drawing for artists and art students. For the first time, the study of the anatomy is combined with a study of the methods of constructing the form. Includes 26 pages of large plates showing muscular structure in full color.

CONTENTS—Preface. Part I. Introduction. Fundamentals. Proportion. Movement. Bony Structure. The Head I. The Trunk I. The Lower Limb. The Upper Limb. Part II. The Muscles. The Head II. The Features. The Trunk II. The Neck. The Hip. The Thigh. The Leg. The Foot. The Arm. The Forearm. The Hand. Action. Drapery. Conclusion. Glossary. Index.

HULTGREN—The Art of Animal Drawing

By KEN HULTGREN.

144 *pp.*, 9⅜ *x* 12¼, *illus.* (1950) $8.50*t*

An easy approach to the drawing of animals. By studying a simplified skeleton of the animal's figure, analyzing its appearance in action, and by accenting its outstanding characteristics through caricature, the reader will find himself able to draw a never ending variety of contrasting types.

CONTENTS—Preface. Tips on Drawing Animals. Mood and Feeling. The Use of Line. Action Analysis. Brush Technique. The Horse Family. The Deer Family. The Cat Family. Cows and Bulls. Giraffes. Camels. Gorillas. Pigs. Dogs. Foxes. Kangaroos. Rabbits. Squirrels. Elephants. The Bear Family. Composition in Animal Grouping.

Painting

BURTON—Week-end Painter

By LAURENCE V. BURTON.

224 *pp.*, 5½ *x* 8, *illus.* (1948) $5.75*t*

*McG-H Paperbacks Ed.**

Here are informative chapters on equipment and material, how to find one's way in color, paints and how to use them, mixing colors,

brush work, using the subject, and painting the picture.
CONTENTS—Why You Should Paint. Water Color, Pastels, or Oils—Which? Equipment and Materials for Oil Painting. How to Find Your Way in Color. Paints and How to Use Them. Mixing Colors. Limitations of Pigments. Painting Mediums, Thinners and Driers. Brushwork. Care of Brushes. Choosing the Subject. Painting the Picture. Sketches Are Not Studies. How to Paint Sunlight. How to Paint a Tree. "Clean" Color. Critics and Criticism. Brief Observations on Painting. Books I Have Read. Index.
* *Available only through your local bookstore.*

MONTGOMERY—Adventures in Watercolor Painting
By PAUL MONTGOMERY.
88 *pp.*, 9½ *x* 7¾, *illus.* (1954).....$5.00*t*
In this refreshing and helpful book a busy executive who has found watercolor painting to be an absorbing and satisfying hobby, talks about his experiences as an amateur painter and gives detailed instructions on how to get started in watercolors. Explains what equipment you'll need; how to choose a subject and make a sketch; how to handle contrasts, highlights, perspective, etc. The twenty-five illustrations, four in color, are from the author's own paintings.

STAPLES—Water-color Painting Is Fun
Prepared by FRANK A. STAPLES for the National Recreation Association.
136 *pp.*, 6 *x* 9, *illus.* (1948).....$4.95*td*
Basic facts about landscape water-color painting, presented step by step in non-technical terms. There are four full-color water-color reproductions and over 100 pen and ink sketches.

Photography

COOK—Color Movie Making for Everybody
A Question-and-Answer Handbook
By CANFIELD COOK.
346 *pp.*, 5½ *x* 8 (1949).....$5.00*t*
In this easy-to-understand handbook, the amateur movie maker will find the answer to his question: "How can I make better, more professional color movies?" Written in question-and-answer form, this book covers all the problems that the beginner, and even the more advanced filmer, will encounter. There are chapters on equipment, lens, the handling of the camera, indoor and outdoor lighting, filters, continuity, composition, trick effects, editing, etc. With the almost universal use of color film today there is a real need for instruction in the use of lens, filters, and exposure meters in color movie making and the special problem that color presents. "Color Movie Making for Everybody" will make the film subjects of all movie makers come alive in color.

DENSTMAN AND SCHULTZ—Photographic Reproduction
Methods, Techniques and Applications for Engineering and the Graphic Arts
By HAROLD DENSTMAN, Lockheed Electronics Co., Plainfield, New Jersey and J. MORTON SCHULTZ, Technical Communications Consultant.
200 *pp.*, 7⅛ *x* 9⅞, 134 *illus.* (1963)..$9.00*i*
This book provides the reproduction technician with a practical and working knowledge of the important and basic reproduction processes at his disposal. Aimed at the professional technician, it is divided into three main sections: Techniques of Line Reproduction, Continuous-Tone Reproduction, and Techniques of Engineering Reproduction. Each section in turn contains information on photographic, photomechanical and engineering reproduction functions.

FLYNN, ROSENBERG, AND KELLOCK—Develop, Print, and Enlarge Your Own Pictures
By JACK O. FLYNN, Union Carbide and Carbon Corp., ALBERT J. ROSENBERG and ALLAN KELLOCK, McGraw-Hill Text-Film Department.
126 *pp.*, 6⅝ *x* 9¾, 295 *photographs* (1952) $4.95*t*
Correlated Text-Film Series—thirteen 35mm silent filmstrips.....Set I $35.50
Set II $41.50
each $6.50
A clear, practical combination of text, captions, and illustrations, this book takes all the mystery out of developing, printing, and enlarging pictures. Each operation is broken down into step-by-step details and illustrated with close-up views. Among the subjects covered are how to develop both roll and sheet film and film packs; how to do contact printing with both the printing frame and printing box; projection printing or enlarging, and the techniques of projection control.

Printing

JACKSON—Printing
A Practical Introduction to the Graphic Arts
By H. E. JACKSON, formerly San Jose State College. *Pub. in Indsl. Arts.*
320 *pp.*, 6¾ *x* 9¼, 270 *illus.* (1957)..$5.60*s*
An introductory book for junior or senior high school students. Contains 80 units in 7 sections. The first 4 sections cover basic processes, and the last 3 sections cover processes which may have special interest for some students. There is an excellent introductory section on photography. Each unit contains specific shop directions and activities for the student to follow, and also has related information about the industry, its processes, and materials.
CONTENTS—I—The Type Case (10 units). II—Hand Composition (30 units). III—Elementary Press Work (15 units). IV—Elementary Bookbinding (15 units). V—Cutting Linoleum Blocks (1 unit). VI—Silk-Screen Printing (5 units). VII—Photography (4 units).

Woodworking

DAL FABBRO—How to Build Modern Furniture
By MARIO DAL FABBRO. Second Edition.
214 *pp.*, 7⅛ *x* 9¾, *illus.* (1957)....$4.95*t**
Presents clear, easy-to-follow instructions for building your own professional quality furniture, plus step-by-step plans for 53 contemporary pieces, by a famous furniture designer. The first section of the book gives instruction in basic woodworking operations, selection of materials, joints, assembly, wood finishing, and upholstery. Standard measurements of all furniture pieces are listed. The second section presents 53 separate pieces: hi-fi cabinets, chests, tables, chairs, beds, and many others. The text is brief and clear—unique exploded diagrams do most of the teaching. Each project contains a list of materials and directions for assembly. Illustrated with over 1200 diagrams and drawings.
CONTENTS—SECTION 1: GENERAL INSTRUCTIONS. General. Woodworking. Basic Joints. Plywood and Curves. Covering Edges and Panels. Doors. Shelves. Drawers.

Materials Other Than Wood. Chairs and Upholstery. SECTION 2: FURNITURE DESIGNS. Instructions for Reading Drawings. (53 furniture projects.) Index.

** Not available for sale in the United Kingdom.*

DAL FABBRO—How to Make Built-in Furniture

By MARIO DAL FABBRO.

262 *pp.*, 7⅛ *x* 9¾, *illus.* (1955)....$6.95*t**

Provides step-by-step instructions for constructing 102 contemporary built-ins. Presents unique sequence plans and illustrations which virtually eliminate the errors and miscalculations which arise in these projects. All pieces can be built from standard grades of wood using common woodworking tools. Includes pieces for living rooms, kitchens, bedrooms, playrooms, attics, and cellars. Hundreds of variations and adaptations can be made from these plans, and the book is also an excellent source of data for designing your own built-ins. Contains 600 plans and drawings.

** Not available for sale in the United Kingdom.*

DAL FABBRO—How to Make Children's Furniture and Play Equipment

By MARIO DAL FABBRO.

200 *pp.*, 7⅛ *x* 9⅞ (1963).....$6.50*td*

Mr. Dal Fabbro presents sixty projects which can be produced by parents and bring joy to the heart of any child. Some of the more tempting projects include a see-saw which doubles for a jungle gym, open shelves that can be used in a variety of ways as the child grows, a toy chest that changes with the child's needs, a puppet theater, a sand box, a portable crib, and a bulletin and chalk board. Each project is easily understandable, and includes a sketch of the completed work, scale drawings, enlarged detailed views, a list of materials needed, and complete instructions. Mr. Dal Fabbro is a furniture designer with the famed New York firm of Paul McCobb Design Associates.

DeCRISTOFORO—Fun with a Saw: Radial Arm Saw Woodworking for Everyone

By R. J. DECRISTOFORO.

216 *pp.*, 7¼ *x* 9⅞, 477 *illus.* (1961)..$6.95*t*

Tells how the home hobbyist can use the latest multipurpose tool—the radial arm saw. Includes simple, easy-to-follow directions for using the saw in hundreds of jobs, and explains how it can be modified to mount other tools like Dado assemblies, molding heads, shaper-cutters, abrasive wheels, rotary planers, drills, polishers, buffers, and router bits.

GRONEMAN—General Woodworking

By CHRIS H. GRONEMAN, Agricultural and Mechanical College of Texas. *Pub. in Indsl. Arts.* Second Edition.

256 *pp.*, 7½ *x* 9¼, 496 *illus.* (1959)..$7.00*t*†

The Second Edition is a thorough revision, based on the suggestions of many industrial-arts woodworking teachers. It offers improved readability, with shorter paragraphs and sentences, and simplified language. New terms are carefully defined when they first appear in the text. These and other changes make the book more suitable than ever for introductory courses at the 8th, 9th, or 10th grade level. The new edition is printed in a double-column format in black and red. Wherever possible, red is used to show how processes are done, to emphasize safety precautions, and to reinforce teaching points in the best way possible. About half of the illustrations are new.

CONTENTS—General Information. Hand Tool Processes. Machine Tool Processes. Portable Tool Processes. Finishing. Upholstering. Related Information. Projects.

LIVINGSTONE—Make-it-yourself Furniture for the Home Craftsman

By JEFFREY LIVINGSTONE.

112 *pp.*, 7¾ *x* 9, 200 *illus.* (1956)....$4.50*t*

This helpful guide offers easy-to-follow instructions and plans for furnishing an entire home with attractive, expertly designed pieces of furniture. Step by step it shows how to make a large variety of items for every room in the house—ranging from coffee tables, desks, and chairs to bookcases, beds, and storage units. Each project is made plain by dimensional plans, drawings and details and assembly, and photographs of finished articles. The book describes and illustrates the various joints used in making furniture, tells how to finish and upholster, and discusses the many different kinds of wood.

SCHARFF—Complete Book of Wood Finishing

By ROBERT SCHARFF.

277 *pp.*, 5⅜ *x* 8, 74 *illus.* (1956)....$5.95*td*

A clear, how-to guide that shows how to obtain a handsome, long-lasting, hard-wearing finish on every kind of wood. It covers recent advances in all kinds of wood finishes—new types of varnishes and shellacs, brushing techniques; newest methods for producing modern blond and bleached finishes. Specific instructions are given for finishing every kind of hardwood and plywood, including the kind of finish to use on each. Techniques involved in the many and varied decorative and novelty effects such as wood graining, marbelizing, antiquing, spatter and wrinkle finishes, etc., are all completely explained. The book tells how to revive and refinish old pieces, how to remove old surface coats without damaging the wood, and how to repair a cracked surface.

SCHARFF—Easy Ways to Expert Woodworking

By ROBERT SCHARFF.

255 *pp.*, 6⅝ *x* 9¾, 200 *illus.* (1956)..$3.95*t*

Explains clearly and completely how to operate and get the most from the DeWalt radial-arm power tool which has brought a new woodworking technique to the home workshop. Shows how by using different attachments—saw, dado head, shaper, drill, and router, saber saw, lathe, disc, belt, and drum sander, grinder, buffer and polisher—the home craftsman can obtain professional results with this multipurpose tool which operates on the same principle as the human arm. Includes chapters on shop safety, woodworking tips, wood finishing, and dimensional drawings for the home craftsman for making work benches for the radial-arm saw.

SCHARFF—More Plywood Projects for the Home Craftsman

By ROBERT SCHARFF.

224 *pp.*, 6⅝ *x* 9¾, *illus.* (1959).....$5.95*t*

Completely new programs, diagrammed and with detailed instructions for making tables, chests, sofas, beds, built-in projects, children's furniture, outdoor furniture and equipment, room paneling. Specific suggestions for working with different types of plywood, construction tips, instructions on finishing.

† Textbook edition available at educational list price.

WOLANSKY—Woodworking Fundamentals

By WILLIAM D. WOLANSKY, R. H. King Collegiate Institute, Scarborough, Ontario.

167 *pp.*, 7¾ *x* 9½, 275 *illus.* (1962)..$2.50

Here is complete, comprehensive information on basic woodworking, from raw materials and tools to cabinet construction and finishing procedures. A new textbook written for beginning vocational woodworking courses, its logically developed material and readily understandable professional drawings make it an ideal guide for the would-be professional woodworker or home handyman. Easy-to-follow chapters deal with the latest woodworking machines, portable electric tools, finishing methods, and furniture design.

CONTENTS—I. General Information. II. Hand Tool Processes and Related Woodworking Fields. III. Machine Tool Processes. IV. Portable Machinery and Its Uses. V. Cabinet Structures. VI. Finishing Materials: Their Preparation and Application. VII. Related Information. VIII. Suggested Projects.

Architecture

GARDNER AND HELLER—Exhibition and Display

By JAMES GARDNER and CAROLINE HELLER.

190 *pp.*, 8⅞ *x* 11½, *illus.* (1960)..$13.75*id*

This practical book studies the problems of designing exhibits and displays that explain, create atmosphere, and sell. It examines the methods used to achieve objectives, and the principles underlying these methods. Over 350 photographs and drawings showing exhibitions, good and bad, past and present, from nearly every region of the world make the analysis more graphic. Covers in detail such topics as: What a display can and cannot do, Displaying goods, Selling ideas, Catching the eye, Goods and services, Ideas and information. Also includes an analysis of the 1958 Brussels World Fair. Anyone who plans or uses exhibitions or displays will find this book a valuable guide.

CONTENTS—I. PRINCIPLES. What exhibition can and cannot do. Displaying goods (and selling them). Selling ideas (and displaying them). Circulation and stand layout. Catching the eye. Lighting. Words and lettering. Special effects. Using plants. Features. II. PRACTICE. Goods and services. Ideas and information. Things for their own sake. Exhibition in the street. An analysis of the 1958 Brussels Fair. III. PROCEDURE (a technical appendix). Notes for exhibitors at trade fairs. Division of responsibilities. Controls and limitations. Organizing a special exhibition. Notes on traveling an exhibition. Notes on coordinating a group exhibition.

HALSE—Architectural Rendering

The Techniques of Contemporary Presentation

By ALBERT O. HALSE, Columbia University.

277 *pp.*, 8¾ *x* 11⅛, *illus.* (1960)..$15.75*i*

A comprehensive manual which explains in text and choice illustrations every technique and medium used in architectural rendering today. For the professional renderer, the architect, and the beginner, it offers something new and complete in its field. Every aspect of rendering receives attention here: interiors, exteriors, nature; perspective, lighting, reflections, textures; all of the media in detail; how to buy and use materials, and when; professional tricks of the trade. Introductory chapters contain a history of rendering, a study of color, and other basic information. A special section of professional renderings done in various media is also included. Contains over 300 illustrations and line drawings, 17 pages in full color.

CONTENTS—1. Who Invented Rendering? 2. The Importance of Rendering in Architecture. 3. The Magic of Imagery. 4. A Quick Look at Perspective. 5. Some Rules of Composition. 6. A Study of Light. 7. Color—Fact and Theory. 8. Basic Equipment and the General Approach to Rendering. 9. Rendering the Entourage. 10. Pencil Rendering. 11. Pen and Ink Rendering. 12. Smudge Charcoal Rendering. 13. Rendering with Chinese Ink. 14. Water Color Rendering. 15. Tempera Rendering. 16. Airbrush Rendering. 17. Pastels, Combinations of Media, and the Rendering of Plans. 18. A Gallery of Professional Renderings. Bibliography. Index.

HITCHCOCK—World Architecture

A Pictorial History

Introduced by HENRY-RUSSELL HITCHCOCK.

In Press

This unique survey brings together interesting and highly comprehensive surveys of Ancient, Classical, Medieval, Renaissance, Chinese, Indian, Islamic, and Modern Architecture. The authoritative text and numerous illustrations provide the reader with the general history of each civilization as well as with an understanding of architecture in its continuous tradition. Includes articles by Seton Lloyd, David Talbot Rice, Norbert Lynton, Andrew Boyd, Andrew Carden, Phillip Rawson, and John Jacobus.

CONTENTS—Introduction. Ancient and Classical Architecture. Chinese Architecture. Japanese Architecture. Indian Architecture. Islamic Architecture. Medieval Architecture. Renaissance Architecture. Modern Architecture. Glossary. Index.

McKAIG—Field Inspection of Building Construction

By THOMAS H. MCKAIG, Chairman of the New York State Board of Examiners for Professional Engineers and Land Surveyors.

337 *pp.*, 6 *x* 9, *illus.* (1958).....$10.50*i*

A guide to the supervision of construction for architects, engineers, and field inspectors which charts a clear path through the maze of owner-architect-contractor-subcontractor relations and responsibilities. Defines responsibilities for such matters as quality of materials and workmanship, coordination of work by different trades, safety precautions, safeguarding of work in place, and much more. Also outlines the pitfalls to be avoided and gives guidance in safeguarding the owner's interest against a variety of contingencies, without exposing him to charges and possible claims for interference or delay.

CONTENTS—1. THE JOB OF THE INSPECTOR. 2. PRELIMINARY STAGE. The Contract. The Plans. Permits, Insurance and Tests. The Site. Safety. Inspection Records. 3. FOUNDATION STAGE. The Subsoil. Preparation for Excavation. Excavation. Caissons and Pilings. Footings and Foundations. Waterproofing. 4. STRUCTURAL FRAMING STAGE. Concrete. Steel. Wood. Masonry. Roofing and Siding. 5. INTERMEDIATE STAGE. General Requirements. Metal Work. Roofing. Mechanical Trades. Walls and Partitions. Windows, Doors, and Trim. Flooring. 6. FINISHING STAGE. Hardware. Painting and Decoration. Masonry and Stone Cleaning. Final Checkup. 7. CONCRETE. APPENDIX A. The General Conditions of the Contract for the Construction of Buildings. APPENDIX B. Reference Sources.

MONIES—Wood in Architecture

By FINN MONIES, Gunnar Jensen and Finn Monies, Copenhagen.

111 *pp.*, 8 *x* 9, *illus.* (1961).....$6.95*t**
Written by a leading Danish architect, this handsomely illustrated book examines man's oldest building material and its many uses in architecture. It surveys the esthetic possibilities inherent in the use of wood in contemporary building, and considers some of the problems involved in its use in exteriors, interiors, and details. The outstanding examples presented clearly demonstrate the Danes' native skill and understanding of wood. Included are houses, exhibition halls, shops, staircases, a church, a gymnasium, an auditorium, eaves, veneer types, and panels. Anyone who plans to work with wood and wants a better understanding of its characteristics as a material and a finished product will find this book uniquely practical. Over 100 illustrations.
CONTENTS—Preface. Wood and houses. Interiors. The detail. Textures and finishes. Wood in large structures.

** Not available for sale in Denmark.*

PONTI—In Praise of Architecture
By GIO PONTI, Translated by MARIO and GUISEPPINA SALVADORI.
288 *pp.*, 5⅜ *x* 7½, *illus.* (1960).....$6.95*t*
A witty and stimulating collection of personal observations about architecture and related matters by a world-famous designer. The insight and sparkle of Ponti's commentaries have had striking effects upon the readers of the original Italian version; they have applauded its brilliance, been astounded by his mental leaps, and stung by his outspokenness. With irreverent remarks, the author punctures many of the inflated concepts that obscure the proper role of architecture and the architect in today's life. A deep feeling about the serious goals of architecture pervades his work; he speaks with strong emotion about the fundamental values that architecture can and must serve. Contains 57 illustrations, including 16 pages of photographs and drawings of Ponti's work.
CONTENTS—Love Architecture. Prophecies for Architects. Architecture. Architecture and Others. The Politics of Architecture. Architecture Is a Crystal. Disappearance of the Wall. Architecture and Buildings. Personal, Mature Thoughts. Judging Architecture. Fantasy of Precisions. The Enchantment of Architecture. (Disturbing Pyramids.) Architecture as Art Ignores Content. Architecture Is Colorless. To Understand Architecture, Let Us Also Speak of Art. Past, Present, Future. Modern Milan Is the Most Italian Thing in Italy. Architecture and Time. Old Architecture at Night. The Old Italian House. The Architect, The Artist. (Let Us Speak in Images.) (The Floor.) The Obelisk. (The Fountain.) The Staircase. Roofs. The Vault. The Balcony. The Window. The Room. Contributions. Raw Materials. (More About Contradictions.) House and Garden. Taste and Tastelessness. Women and Architecture. The Metier. Obvious Thoughts. The Building. Cards on the Table. Industrial Design. An Architectural Symposium. Prophecies. Imaginary Diary. Around the World. Maxims. Fifty Questions, Fifty Answers. Listening to the Building. Architecture, Religion. Apologia.

Architectural Engineering

ARCHITECTURAL RECORD—Architectural Engineering
By THE EDITORS OF ARCHITECTURAL RECORD.
494 *pp.*, 8¾ *x* 11⅝, *illus.* (1955)....$12.75*i*
100 case studies which present the latest developments in architectural engineering. Each study is a detailed source of specific information for which there is current professional demand. Each is graphically complete with plans, diagrams, illustrations, and photographs —over 1,400 in all. Contains simplified, cost-cutting methods, new uses for old and new materials, new structural systems, and new mechanical and electrical equipment. Examines in detail residential heat pumps, concrete prefabrication, thin shell design, plastics for buildings, structural plywood, residential solar heating, blast-resistant buildings, and design for radioactivity protection.
CONTENTS—SECTION ONE: BUILDING SHELL. Structural Frame, Walls, Roofs, Floors. Prefabrication. SECTION TWO: ENVIRONMENTAL CONTROL. Heating and Air Conditioning: Panel Heating and Cooling. Heating and Air Conditioning: Air Conditioning. Heating and Air Conditioning: New Devices and Systems. Thermal Insulation and Condensation. Lighting. Acoustics. SECTION THREE: UTILITIES. Electrical Systems. Vertical Transportation and Materials Handling. SECTION FOUR: SITE PLANNING. Drainage. Foundations. Roads and Parking. SECTION FIVE: MATERIALS. Concrete. Wood. Wood Protection. Glass. Plastics. Flooring. SECTION SIX: SPECIAL PROBLEMS. Structural Safety. Fire and Explosion Protection. Planning for Atomic Energy.

CALLENDER—Time-Saver Standards, 4th Ed.
Edited by JOHN HANCOCK CALLENDER. Prepared by a Staff of Experts.
In Press
The fourth edition of this widely-used workbook of architectural design standards and construction reference data has been completely revised and up-dated by 46 leading experts. New in this edition are detailed studies of such important areas as space frames, suspension structures, steel domes, curtain walls, skylights, plastics, useful curves, motel design, homes for the aged, glass, plaster, and sliding glass doors. The book also gives exceptionally thorough coverage of structural design, reinforced and prestressed concrete, schools, and heating and air-conditioning. Proven solutions to hundreds of problems, positive help on matters of size, area, weight, and volume, arithmetic formulae, physical properties of substances, and drafting specifications of every kind can be found in its pages.
CONTENTS—Basic Data. Structural Design. Building Materials, Components, and Techniques. Environmental Control. Design Elements. Landscaping and Recreation.

FISCHER—Architectural Engineering Structures
By ROBERT E. FISCHER, Senior Editor, Architectural Record.
In Press
Illustrates and describes new structural concepts, systems, and design procedures. Presents an orientation to what new structural systems are; how they work; how they relate to building design and to integration with mechanical elements; and how they are designed and built. Considers structures in context with the total building design problem; thus it describes how today's structures provide longer spans, freedom from column interference, more economy, sizable space, greater efficiency, and how unique structural systems have served as principal visual elements of important buildings. Subjects range from pre-cast and prestressed concrete through thin shells; composite construction, plastic design suspension structures and space frames in steel; lamella roofs through stressed-skin panels in wood. Included are personal design approaches of famous engineers.

HUNT—The Contemporary Curtain Wall
Its Design, Fabrication and Erection
By WILLIAM DUDLEY HUNT, JR., Senior Editor, *Architectural Record.*
454 *pp.*, 7 *x* 9¾, *illus.* (1958).....$12.75*i*
Provides complete, authoritative treatment of curtain wall design and construction. Starting with a review of the purposes of any wall, the book then contrasts curtain walls and load-

bearing walls in every possible way—weight, time of erection, wind resistance, weatherproofness, fire resistance, costs, thickness, maintenance—and indicates the advantages and disadvantages of each. Includes a wealth of information on curtain wall construction, the functions and malfunctions of the walls, plus detailed analyses of different types of frames, facings, insulation, joists, fasteners, and solar controls. Every known material from which curtain wall panels are manufactured is covered. Contains concise data on the advantages and disadvantages of each material, its chemical, physical, and mechanical properties, its durability and appearance. Fully covers standards, production methods, and erection. Illustrated with over 225 drawings and photographs, plus 71 informative tables.

CONTENTS—1. The Curtain Wall. 2. The Functions. 3. The Elements. 4. The Materials. 5. The Materials: Aluminum, Stainless Steel, Other Metals. 6. The Materials: Porcelain Enamel, Glass, Plastics. 7. The Materials: Concrete, Stone, Burned Clay. 8. The Materials: Composite Panels and Organic Coatings. 9. The Methods. 10. The Future. Appendixes. Index.

NERVI—Structures

By PIER LUIGI NERVI.

118 *pp.*, 7¼ *x* 9⅞, 113 *illus.* (1956)..$6.95*t*

A stimulating book by the renowned Italian master builder. Here he draws on his 30 years experience as designer, engineer, and builder in reinforced concrete. Alternately practical and philosophical, the book considers such varied subjects as architect-client relations, training of designers and builders, theory of structures, building in reinforced concrete, freeing concrete from limitations of formwork, and the future of reinforced concrete. Illustrated with 88 photographs and 25 drawings of the author's most famous works.

CONTENTS—FOREWORD by Mario Salvadori. PREFACE. 1. BUILDING CORRECTLY. The Client. Economy. Academic Training of the Designer. Artistic Training. 2. STRUCTURAL CHARACTERISTICS OF REINFORCED CONCRETE. Difficulties and Uncertainties. Formwork. Recommended Measures. Quality Control. 3. IMPERFECT ELASTIC BEHAVIOR OF CONCRETE. Variability in Quality of Concrete. Variability of Modulus Due to Loading. Need for Experimental Investigation. 4. FERRO-CEMENTO. Application to Naval Construction. Other Applications. 5. STRUCTURAL PREFABRICATION. Some Prefabricated Structures. 6. EXPERIMENTAL MODEL ANALYSIS. 7. STRUCTURAL FREEDOM AND THE FUTURE. Limitations Imposed by Wooden Formwork. Skin-Resistant Structures. Understanding Structures Intuitively. Removing Mechanical Limitations. APPENDIX. Table of Equivalents. Key to Notations on Drawings. INDEX.

PHILLIPS—Lighting in Architectural Design

By DEREK PHILLIPS, Architect, Lighting Consultant.

In Press

A thorough presentation of lighting for architects and designers, from the basic visual, emotional, and esthetic needs that state the design problem, to the technical and economic considerations that control its solution. Considers the functional and human needs for task illumination, comfort, well being and safety that dictate the criteria for lighting levels, and provides analytical tools for determining what these should be in any given situation. Fully treats the economics of light sources and their installation and maintenance. Also describes in detail the calculation of illumination levels, with attention to both natural and artificial components, including the essentials of brightness engineering. Illustrated with over 380 photographs and drawings.

PRESTON—Prestressed Concrete

For Architects and Engineers

By H. KENT PRESTON, P.E., J. A. Roebling's Son Div., Colorado Fuel and Iron Corp.

In Press

Covers what has been done with prestressed concrete, what can be done with it, and how it can be used in future structures. A practical book providing complete coverage of prestressed concrete and fully illustrated with many pictures and drawings. Discussions include basic principles of stress distribution, new concepts introduced by prestressed concrete, and procedures of fabrication and erection. Also furnishes guidance on the design of new structures—spanload tables of typical members, detail drawings of standard methods of framing, a specification covering design of joints and connections, a code for structural design, and a suggested procedure to be followed in designing a prestressed concrete building.

TORROJA—The Structures of Eduardo Torroja

An Autobiography of Engineering Accomplishment

By EDUARDO TORROJA.

198 *pp.*, 7 *x* 9¾, *illus.* (1958).....$8.50*t*

Eduardo Torroja, famous Spanish architect-engineer, has written a book which illustrates, describes, and explains the 30 most significant accomplishments of his career. These structures include bridges, dams, hangars, sports arenas, factories, and churches. The book shows the author's reasoning in arriving at the design of each structure, and reveals his unusual building philosophy. Engineering details are given. Illustrated with over 275 photographs, plans, and drawings.

CONTENTS—FOREWORD BY MARIO SALVADORI. 1. Large Shells. 2. Viaducts and Aqueducts. 3. Special Structures. 4. Steel and Composite Structures. 5. Churches and Chapels. Index.

Building Types

ARCHITECTURAL RECORD—Apartments and Dormitories

By THE EDITORS OF ARCHITECTURAL RECORD.

238 *pp.*, 8¾ *x* 11⅝, *illus.* (1958)....$9.75*t*

In response to numerous requests for information on this building type, the editors of *Architectural Record* have selected 48 superior examples of apartment houses, college residence halls, and other multiple dwellings, designed by some of the world's leading architects. The buildings range in size from two-family houses to vast housing projects. In addition to the buildings, there is a section containing useful technical information, and a series of studies on trends in apartment buildings and community development.

CONTENTS—Building Multiple Dwellings. Apartments: Community-Scale Projects. Apartments: Large Projects. Apartments: Small Projects. Campus Dormitories and Apartments.

ARCHITECTURAL RECORD—Buildings for Industry

By THE EDITORS OF ARCHITECTURAL RECORD.

309 *pp.*, 8¾ *x* 11⅝, *illus.* (1957)....$9.75*i*

An outstanding selection of industrial buildings together with a series of informative studies on trends and factors in industrial building design. It analyzes 74 projects from all over the United States, as well as a few from overseas, and shows how each of them meets the needs and policies of the company. Explains the

choice of site, plan, lighting, colors, loading docks and rail spurs, employee facilities, and many more features. Numerous illustrations are included in each study. Discusses in detail hundreds of today's problems in industrial buildings, giving show-how solutions developed by some of the world's leading industrial architects and engineers.

CONTENTS—Design Principles. Warehousing. Light Industry. Consumer Goods. Manufacturing Laboratories. Utilities and Service Industries. Heavy Industry. Index.

ARCHITECTURAL RECORD—Buildings for Research

By THE EDITORS OF ARCHITECTURAL RECORD.

224 *pp.*, 8¾ *x* 11⅛, *illus.* (1958)....$9.50*i*

Prepared by experts in architectural engineering and scientific research, this timely book analyzes in detail a wide variety of research facilities built by industry, government agencies, and universities—44 separate projects. It presents in detail the hundreds of common requirements of good laboratory design—information on safety measures, waste removal, corrosion-prevention, vents and drains, modular units, and much more. Contains a special section on nuclear facilities which provides an insight into atomic processes and equipment and how they affect the design of the laboratory. Special attention is given to the design standards necessary to avoid radiation dangers to personnel. Illustrated with over 500 photographs, plans, and drawings.

CONTENTS—Planning the Laboratory. Nuclear Laboratories. Industrial Laboratories: 1. Industrial Engineering. 2. Biological Research. 3. Electronic Research. 4. Chemical Research. Institutional Laboratories: 1. University Research. 2. Military Research.

ARCHITECTURAL RECORD—Design for Modern Merchandising

Stores, Shopping Centers, Showrooms

By THE EDITORS OF ARCHITECTURAL RECORD.

247 *pp.*, 8¾ *x* 11⅛, *illus.* (1954)....$8.95*i*

Presents for the first time in a single source a detailed study of physical design in stores, shopping centers and showrooms, and graphically shows the delicate relationship between good design and good business. Includes studies of 101 stores, 46 shopping centers, and 8 showrooms where well-planned, functional design has paid off in heavy traffic and satisfied customers. Each study is illustrated with interior and exterior photographs and floor plans—767 in all. Each study is a compact survey of the establishment, its purposes, and its problems. Anyone about to undertake new construction or renovation or expansion of a merchandising building will find this an endless, fascinating source of useful ideas.

CONTENTS—SECTION I—STORES. Store Design by Caleb Hornbostel. Store Fronts. Comprehensive Planning. Levels. Store Fixtures and Display. Color. Lighting. Storage. (91 case histories of store projects.) Current Trends in Store Design by Morris Ketchum, A.I.A. (10 case histories of store projects.) SECTION II—SHOPPING CENTERS. Introduction. What Makes a Good Shopping Center. Site Selection. Planning the Site. The Necessary Parking. Service and Amenities. Regional Shopping Centers by Kenneth C. Welch, A.I.A. (46 case studies of shopping centers.) SECTION III—SHOWROOMS. (8 case histories of wholesale showrooms.) Index.

ARCHITECTURAL RECORD—Hospitals, Clinics, and Health Centers

By THE EDITORS OF ARCHITECTURAL RECORD.

256 *pp.*, 8¾ *x* 11⅛, *illus.* (1960)....$9.75*i*

Here, in one book, are the newest, most effective ideas for the planning of hospitals and other medical facilities. Divided into four sections, this valuable source covers almost the entire range of medical building types: hospitals, special facilities, rehabilitation centers, health centers, clinics, and doctors' offices. Contains sixty presentations and discussions. Each project studies a particular planning problem and its solution, and is graphically illustrated with interior and exterior photographs, plans, and diagrams. Includes authoritative technical articles on planning such specific elements as x-ray suites, pediatric units, and surgical suites. Contains more than 700 photographs, plans, and diagrams.

CONTENTS—Section I—Hospital Buildings. (20 studies.) Section II—Special Facilities. (12 studies.) Section III—Rehabilitation Centers. (12 studies.) Section IV—Health Centers. Clinics, and Doctor' Offices. (19 studies.) Index.

ARCHITECTURAL RECORD—Motels, Hotels, Restaurants and Bars

By THE EDITORS OF ARCHITECTURAL RECORD.

Second Edition.

327 *pp.*, 8¾ *x* 11⅛, *illus.* (1960)....$10.75*t*

A detailed study of physical design in motels, hotels, restaurants and bars showing the important relationship between good design and good business. Presents 63 successful establishments where well-planned, functional design has paid off in flourishing trade and satisfied clientele. Each case study is illustrated with interior and exterior photographs, floor plans, and structural diagrams. The book contains three major sections. Section one presents 23 detailed studies and covers every detail that goes into programming a motel. Section two contains 20 case histories and fully explains what to plan for in contemporary hotel design. Section three gives all the information needed for planning anything from corner coffee shops to resort dining places. Illustrated with over 700 photographs, plans, and diagrams.

CONTENTS—Section 1. Lodgings for Travelers. MOTELS. (23 case histories and 8 articles.) Section 2. HOTELS. Today's Trends in Hotel Design, by Walter Voegele. (20 case histories.) Section 3. RESTAURANTS AND BARS. (20 case histories and 3 articles.)

ARCHITECTURAL RECORD—Office Buildings

By THE EDITORS OF ARCHITECTURAL RECORD.

256 *pp.*, 8¾ *x* 11⅛, *illus.* (1961)....$9.75*t*

This informative books brings together for the first time in any volume detailed studies of the nation's outstanding office buildings, and shows the significant architectural, structural, and mechanical features of each. The book examines over 40 separate locations: company headquarters buildings, architects' offices, office buildings combined with banks, rental properties, engineering office buildings, and many more. Through detailed photographs, structural diagrams, and floor plans, it outlines the individual problems encountered in the design of each building and the methods which were used to solve them. Contains extensive practical data on office acoustics, lighting systems and temperature control, curtain walls, ceiling systems, glass walls, space planning for electronic data processing equipment, electrical systems, air conditioning, and structural framing details. Illustrated with over 700 photographs, plans, and diagrams.

CONTENTS—HIGH-RISE BUILDINGS. The New Skyscraper, by James S. Hornbeck. One Hundred Years of Significant Office Buildings. (21 case histories of large office buildings.) LOW-RISE BUILDINGS. (19 case histories of low-rise office buildings.) ENGINEERING. Planning Office Buildings for Automation. A Guide to Office Acoustics, by Harold C. Hardy. Air Conditioning for Large Office Buildings, by Gordon V. Bond. (2 case histories of buildings designed for use of data processing equipment.)

ARCHITECTURAL RECORD—Schools for the New Needs

Educational; social; economic

By THE EDITORS OF ARCHITECTURAL RECORD.

312 *pp.*, 8¾ *x* 11⅝, *illus.* (1956)....$9.75*i*

A graphic presentation of 66 school buildings from all parts of the country, which best demonstrate today's sweeping advances in concept and design. The result of today's pressing need for economy, all of these schools are working proof that sound planning can pay off in better school buildings at lower cost. The book discusses comparative costs, expandability, flexibility, maintenance and operating costs, quality values, architectural economies, orientation and rehabilitation. Each case study is illustrated with photographs, charts, and diagrams—over 900 in all.

CONTENTS—What Makes a Good School Building? Section 1—Cost Studies. (10 case histories and 6 articles.). Section 2—Elementary Schools. (28 case histories and 2 articles.) Section 3—Secondary Schools. (12 case histories and 2 articles.)

CAUDILL—Toward Better School Design

By WILLIAM W. CAUDILL.

271 *pp.*, 8¾ *x* 11⅝, *illus.* (1954)....$12.75*i*

A common-sense approach to designing school buildings of all types, from elementary grades through college. Contains 91 case studies of schools where adherence to an approach based on the specific problems involved has resulted in better schools which give the taxpayer the most for his money. Each case study clearly states the specific problem, shows how this sound approach was used, and gives a short explanation of the ultimate solution.

CONTENTS—Introduction by Richard J. Neutra. The Pupil and the School Plant. Education and the School Plant. Environment and the School Plant. Economy and the School Plant. City Planning and the School Plant. The Division of Space for Effective Education. The Planning Process and the School Plant. A Series of 91 Illustrated Case Studies.

CHRIST-JANER AND FOLEY—Modern Church Architecture

A Guide to the Form and Spirit of 20th Century Religious Architecture

By ALBERT CHRIST-JANER and MARY MIX FOLEY.

333 *pp.*, 8¾ *x* 11⅝ (1962).....$9.75*t*

This handsomely illustrated volume reveals the full range of expression attainable in religious architecture today. Forty of the finest architectural achievements in the Roman Catholic and Protestant traditions are represented—from modest chapels to magnificent cathedrals and seminaries. Many are acknowledged masterpieces; others are bold experiments suggesting the potential of modern technology; still others are modest structures using regional materials in a fresh and spiritually evocative manner. Here you will find works by Perret, Candela, Thiry, Belluschi, Niemeyer, Le Corbusier, Saarinen, Mies van der Rohe, Wright, and Breuer. For architects, clergymen, building committees, and interested laymen, this is a truly meaningful synthesis of theology and architecture.

HORNBECK—Stores and Shopping Centers

Edited by JAMES S. HORNBECK, Senior Editor, *Architectural Record*.

178 *pp.*, 8 1/16 *x* 11⅝, 426 *illus.* (1963) $11.75*i*

This book represents a collection of the best articles and design presentations on retail stores and shopping centers appearing in *Architectural Record* over the past eight years. It includes the work and thinking of the architects, consultants, and practitioners who are responsible for the basic new ideas, new concepts, and "new looks" in this fast-moving field.

MATHIASEN AND NOAKES—Planning Homes for the Aged

By GENEVA MATHIASEN and EDWARD H. NOAKES.

119 *pp.*, 8¾ *x* 11⅝, *illus.* (1959)...$12.75*i*

A comprehensive planning guide on the problems of designing and building homes for the aged and infirm. Edited by an expert in problems of the aging and a noted institutional architect, the book provides written and graphic guidance in the physical planning of such homes. The first of two main sections is organized into eleven chapters, each written by a contributor of professional distinction and practical experience. Included are such important topics as government financing, recreation facilities, on-premises medical care, offices for personnel, service and mechanical facilities, etc. The second section consists of helpful plans and designs selected from an architectural competition conducted by the National Committee on the Aging. In addition, useful appendices give pertinent population data, building cost information, and an exhaustive bibliography for research.

CONTENTS—Foreword. 1. Congregate Living for Older People. 2. Community Needs and Resources. 3. Location and Building Site. 4. Common Services. 5. The Residence Unit and Room. 6. Health Needs. 7. Administration and Staff Facilities. 8. Service and Mechanical Facilities. 9. Construction Materials and Costs. 10. Design. 11. Function of the Architect.

MUNCE—Industrial Architecture

An Analysis of International Building Practice

By JAMES F. MUNCE, Munce and Kennedy.

232 *pp.*, 9⅛ *x* 12¼, *illus.* (1960)..$14.75*id*

An up-to-date, comparative survey of industrial building design in the United States, Great Britain, and Germany. Provides a stimulating review of the basic principles and newest developments upon which a factory design must be based. The book considers every aspect of industrial architecture: functions and needs; utilities, services, and structural elements; physical appearance; and location. Emphasizes changing trends and their implications for the future, with entire chapters devoted to automation and industrial parks.

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PARNES—Planning Stores That Pay

By DR. LOUIS PARNES.

313 *pp.*, 8⅜ *x* 11, *illus.* (1948).....$12.75*i*

This book demonstrates the amazing degree to which architecture—as expressed in counter lengths, traffic flow, etc.—speeds and increases retail sales. With more than 500 illustrations, it explores every detail of the store and its arrangements—entrances, arcades, show windows, transportation systems, furniture and fixtures, receiving and shipping facilities, floor and department layouts, display arrangement and lighting, and hundreds of other items. Covers every detail of modern stores and is applicable both to new stores in the planning

stage and to the redesigning of present stores now obsolete.

CONTENTS—1. Introductory Survey. 2. City Planning Considerations. 3. The Selling Zone. 4. The Customers' Zone. 5. The Merchandise Zone. 6. The Show Window. 7. The Personnel Zone. 8. Interior Lighting. 9. Circulation and Transportation. 10. Scientific and Theoretical Considerations. Index.

ROYCRAFT—Industrial Building Details

By DUANE F. ROYCRAFT. Second Edition.

352 *pp.*, 8¾ *x* 11⅝, *illus.* (1959)....$12.75*i*

A master reference of architectural details for the industrial building designer, this book presents over 1,500 detail drawings which have been proven in use by architects, draftsmen, and engineers. Each is sharp and clear, drawn precisely to scale, and is large enough to trace or project for direct use or adaptation. Every part of the contemporary industrial building is shown—from roofs and parapets to catch basins and manholes. Text is kept to a minimum, appearing only to introduce each of the seventeen major sections. Contains a listing of abbreviations, a key to materials symbols, and a master index for instant reference.

CONTENTS—Structural Details. Walls and Windows. Louvers. Roofs and Parapets. Monitors. Floors. Ventilators and Stack Curbs. Expansion Joints. Flashing. Canopies. Doors and Door Frames. Stairs and Landings. Ladders and Platforms. Hatch Covers and Frames. Catch Basins and Manholes. Storage and Transport. Miscellaneous Details. Index.

SMITH—Planning the Surgical Suite

By WARWICK SMITH.

480 *pp.*, 6 *x* 9, *illus.* (1960).....$12.75*id*

This unique guide explains how the intended functions of a surgical suite affect its organization and design, and describes the methods of translating these needs into actual facilities. The book prepares the way for a complete analysis of the function and design of the surgical suite. Considers the size, plan, and location of the suite; traffic flow for patients and staff; storage for clean and sterile supplies; sterilization; the detailed arrangement of rooms, with emphasis on the major and specialty operating rooms and the recovery room; materials and finishes; heating, ventilating, and air conditioning; and engineering services. Contains over 75 illustrations and 17 guide tables and charts.

CONTENTS—1. The Role of the Suite. 2. The Size of the Suite. 3. Patient Traffic. 4. Personnel Traffic. 5. Sterilization. 6. Clean and Sterile Supplies. 7. The Location of the Site. 8. The Plan-Form of the Suite. 9. Room Relationships. 10. The Major Operating Room. 11. Specialty Operating Room. 12. Department of Anesthesiology. 13. The Recovery Room. 14. Ancillary Rooms. 15. Materials and Finishes. 16. Heating, Ventilating, and Air Conditioning. 17. Engineering Services. 18. Program and Checklist. Appendix A. Appendix B. Index.

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Houses

ARCHITECTURAL RECORD—Record Houses of 1963

By THE EDITORS OF ARCHITECTURAL RECORD.

215 *pp.*, 8½ *x* 11⅝ (1963).....$2.95*t*

The eighth annual volume of the year's outstanding contemporary houses. After considering hundreds of architect-designed houses, the editors of *Architectural Record* selected the 20 presented here. Representative of contemporary architecture's exceptional adaptability to the cultural, social, and day-to-day living needs of the American family, they cover every climatic region of the country. Their price range spotlights the dramatic capabilities of the architect to serve the living needs and aspirations of families with widely varying budgets. Presentation of each house includes: overall floor plan, accurately scaled, complete photographic coverage of exterior and interior, brief text telling why the architect designed as he did, and the equipment and materials of his choice.

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By THE EDITORS OF ARCHITECTURAL RECORD.

215 *pp.*, 8¾ *x* 11⅝, *illus.* (1954)....$6.95*t*

Here are 50 architect-designed contemporary houses. Selected from plans of thousands of new homes, the houses within these pages are the experts' choice, designed by some of the world's leading architects, the ultimate in house perfection. Most of the houses are depicted in 10 or more photographs, illustrations, and plans. Over 600 superb illustrations accompany a pertinent, lucid text by the editors of the world's leading architectural magazine. The story behind each house is presented simply in its essentials with no frills or involved technical language.

ARCHITECTURAL RECORD—The Second Treasury of Contemporary Houses

By THE EDITORS OF ARCHITECTURAL RECORD.

216 *pp.*, 8¾ *x* 11⅝, *illus.* (1959)....$7.75*t*

A magnificent collection of 44 contemporary houses superbly described by text, photographs, drawings and plans. Examples of the spirit of originality and individuality that is becoming ever more important in mid-twentieth century architecture, these houses are distinctive in the success with which they met the physical and esthetic requirements of their owners. Ranging from the inexpensive to the luxurious, and representing the various climates of this country, they will furnish a genuine treasury of ideas to architects, contractors, and laymen alike. 8 pages in full color.

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Landscape Architecture

CONOVER—Grounds Maintenance Handbook

By HERBERT S. CONOVER. Second Edition.

501 *pp.*, 6 *x* 9, *illus.* (1958).....$15.00*hb*

Presents all the detailed information needed to supervise, maintain, and plan grounds from

one to thousands of acres—whether public, private, or industrial. Fully illustrated with over 75 photographs and 100 line drawings, it covers such diverse topics as turf maintenance, planting and care of trees and shrubs, equipment selection, control of weeds, insects and diseases, materials specifications, parking areas, maintenance of roads, picnic areas, and dozens of other important topics. Throughout the book practical, economical methods and material are stressed. The information and advice contained in this book is geared to obtaining maximum results for each dollar spent for grounds maintenance.

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ECKBO—The Art of Home Landscaping
By GARRET ECKBO.
278 *pp.*, 6⅝ *x* 9¾, *illus.* (1956).....$6.95*t*

This book helps the reader recognize his landscaping needs, plan them on paper, substitute pencil work for shovel work, and eventually provide useful, beautiful outdoor space to the limits of his lot. Especially valuable to the new home buyer or builder who cannot afford the services of a landscape architect, and who cannot afford to make costly mistakes in his basic planning. Covers in detail such topics as: recognizing your needs, plans, scheduling work and money, screenings, walls, drainage, soil conditions, solar orientation, weather considerations, and many more. Illustrated with hundreds of photographs and line drawings.

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ECKBO—Urban Landscape Design
By GARRETT ECKBO, Eckbo, Dean and William, Architects, South Pasadena, Calif.
In Press

This book is concerned with the improvement of the general physical landscape and of the urban landscape where most people live. It discusses the relationship between landscape and people taken individually and collectively. Because improvement in landscape results from design, the book concentrates on design. This book is for architects, landscape architects, site planners, civil engineers; superintendents of grounds, golf courses, cemeteries, campuses and all people interested in community improvement.

SIMONDS—Landscape Architecture
The Shaping of Man's Natural Environment
By JOHN ORMSBEE SIMONDS.
244 *pp.*, 8¾ *x* 11⅝, *illus.* (1961)..$13.75*td*

This authoritative book outlines and analyzes the complete landscape process from the selection of a site to the completed project. Written by a noted landscape architect, it fully explains what must be done to achieve sound, meaningful planning. Every aspect of site planning is covered in detail: fundamentals, the site, organization of spaces, visual aspects of plan arrangement, circulation, structures in the landscape, and planning the region. Anyone who wants a keener insight into the complex problems involved in landscape and site planning will find this a logical and refreshing source of ideas. Illustrated with over 200 photographs and line drawings.

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ENGINEERING MANUAL

A Practical Reference of Data and Methods in Architectural, Chemical, Civil, Electrical, Mechanical, and Nuclear Engineering. Edited by ROBERT H. PERRY, National Science Foundation. Prepared by a Staff of Specialists.

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TIMOSHENKO—Engineering Education in Russia

By STEPHEN P. TIMOSHENKO, Professor Emeritus, Stanford University.

47 *pp.*, 6 *x* 9 (1959).....$2.75*t*

One of the world's outstanding engineering teachers gives a firsthand analysis of Russian engineering education. His descriptions are based upon personal knowledge of the Russian educational system in prerevolutionary days and his return visit to Soviet engineering and technical schools in 1958. Professor Timoshenko describes some important Russian engineering schools as they are organized today and briefly compares the curricula of American and Russian schools, with some details about undergraduate and graduate teaching of engineering mechanics in Russia. The author believes that Russia has returned very nearly to the educational system that existed before the Communist revolution, and that favorable conditions have been created for further development of the engineering sciences.

Materials Handbooks

BRADY—Materials Handbook

An Encyclopedia for Purchasing Agents, Engineers, Executives, and Foremen

By GEORGE S. BRADY. Ninth Edition.

970 *pp.*, 6 *x* 9, *illus.* (1963).....$17.50*hb*

The ninth edition of this widely used handbook of practical data on materials provides a vast store of information useful in selecting and specifying materials for various purposes. It presents the most pertinent facts on metals, alloys, refractories, abrasives, woods, synthetic resins, industrial chemicals, and much more. The book also gives vital information on properties and characteristics of materials, and substitutes, adulterants, and uses. In addition, it contains basic information on such important subjects as the economic geography of materials, resources, weights, measurements, physical comparisons, and charts and maps of distribution and production of world-wide material items. Fully covers the materials for the

newer industries such as electronics, nuclear, jet propulsion, and more, with analytical data on the background of facts of these new industries to show how and why the materials are used.

MANTELL—Engineering Materials Handbook
Edited by CHARLES L. MANTELL, Newark College of Engineering. Prepared by 153 specialists.
1906 *pp.*, 6 *x* 9, 681 *illus.* (1958)..$25.00*hb*
A comprehensive and authoritative reference on engineering materials, giving the kind of information required by readers concerned with design, structure, and serviceability. In 43 sections, each prepared by one or more specialists, the book presents a wealth of information on the metals, the organic materials, those inorganic in nature, and the causes and prevention of failure. Emphasis is placed on the fabricated forms of materials, their physical and mechanical properties, their adaptations, advantages, limitations, competition with each other, protection against deterioration, and increase in their stability to withstand use and abuse. The needs of all fields of engineering are covered, and of engineers, designers, architects, and purchasing agents.
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Orientation and Engineering Problems for Engineers

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CONSTANCE—Mechanical Engineering for Professional Engineers' Examinations: Including Questions and Answers for Engineer-In-Training Review
By JOHN D. CONSTANCE, P.E., Engineering Registration Consultant.
447 *pp.*, 5⅜ *x* 8, 227 *illus.* (1962)..$10.00*tL*
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JOHNSON—Engineering, Principles and Problems
By LEE H. JOHNSON, Tulane University.
318 *pp.*, 6 *x* 9, 149 *illus.* (1960)
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KURTZ—Engineering Economics for Professional Engineers' Examination
By MAX KURTZ, Consulting Engineer.
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KURTZ—Structural Engineering for Professional Engineers' Examinations
Including Civil Engineering Review
By MAX KURTZ, P.E., Mechanics Institute.
300 *pp.*, 5⅜ *x* 8, 246 *illus.* (1961)..$11.00*tL*
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By WILLIAM S. LaLONDE, Newark College of Engineering. Second Edition.

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By DONALD T. CANFIELD and J. H. BOWMAN, Purdue University. Second Edition.

352 *pp.*, 6 *x* 9 (1954).....$8.50*c*

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CONTENTS—Introduction. Instruments and Their Use. Applied Geometry. Lettering. Orthographic Drawing and Sketching. Pictorial Drawing. Auxiliaries: Normal and Edge Views. Sections and Conventions. Intersections and Developments. Drawings and the Shop. Dimensions, Notes, Limits, and Precision. Screw Threads, Fasteners, Keys, Rivets, and Springs. Working Drawings. Charts, Graphs, and Diagrams. Drawings of Jigs and Fixtures. Drawings of Welded Parts. Drawings of Gears and Cams. Drawings of Piping. Drawings of Electrical Systems. Drawings of Structures. Maps and Topographic Drawing. Commercial Practices and Economies. Glossary: Shop Terms; Structural Terms; Architectural Terms; Welding Terms. Bibliography of Allied Subjects. Appendix: Lettering; The Slide Rule; Mathematical Tables; Standard Parts, Sizes, Symbols, and Abbreviations.

VIERCK AND HANG—Engineering Drawing Problems

By CHARLES J. VIERCK, University of Florida; and RICHARD HANG, The Ohio State University.

109 *pp.*, 8½ *x* 11, *illus.* (1960).....$5.25*c*

Here is a problem book to accompany the new French-Vierck text MANUAL OF ENGINEERING DRAWING. This workbook covers the essentials of engineering drawing in a logical and straightforward manner. The problems have been selected to include every important phase of the subject and to provide the student with exercises and problems that will demonstrate understanding of subject matter and ability to read and write the graphic language. This book includes such special topics as drawings of electrical systems, commercial practices and economies, slide rule, structural and topographic practices. An instruction booklet is included, which contains all directions, references and visual material needed by the student.

CONTENTS—Instruments and Their Use. Applied Geometry. Lettering. Orthographic Drawing and Sketching. Pictorial Drawing and Sketching. Auxiliaries: Normal and Edge Views. Sections and Conventions. Intersections and Developments. Dimensions, Notes, Limits, and Precision Dimensioning. Screw Threads and Threaded Fasteners. Working Drawings. Tracing Paper. Charts, Graphs, and Diagrams. Drawings of Jigs and Fixtures. Drawings of Welded Parts. Drawings of Piping. Drawings of Gears and Cams. Drawings of Electrical Systems. Drawings of Structures. Map and Topographic Drawing. Commercial Practices and Economies. The Slide Rule: Instruction Booklet.

FRENCH AND VIERCK—Fundamentals of Engineering Drawing

By THOMAS E. FRENCH, Deceased, and CHARLES J. VIERCK, University of Florida. *Engg. Drg. Series.*

552 *pp.*, 8¼ *x* 9¼, 1151 *illus.* (1960) $7.50*c*

This text is a shortened version of "A Manual of Engineering Drawing for Students and Draftsmen," 9th Edition, and "Graphic Science" (by the same authors). It is geared to the short first-year course and intended as an introduction to the essentials of graphics which a draftsman or engineer in practically any field of engineering must know. This text, with others of the teacher's choice, will provide instructional material to meet the needs of any specific educational plan.

CONTENTS—Introduction. Instruments and Their Use. Applied Geometry. Lettering. Orthographic Drawing and Sketching. Pictorial Drawing. Auxiliaries: Normal and Edge Views. Sections and Conventions. Intersections and Developments. Drawings and the Shop. Dimensions, Notes, Limits, and Precision. Screw Threads, Fasteners, Keys, Rivets, and Springs. Working Drawings. Glossary: Shop Terms; Structural Terms; Architectural Terms; Welding Terms. Bibliography of

† *Textbook edition available at educational list price.*

Allied Subjects. Appendix: Lettering; The Slide Rule; Mathematical Tables; Standard Parts, Sizes, Symbols, and Abbreviations.

VIERCK AND HANG—Fundamental Engineering Drawing Problems

By CHARLES J. VIERCK, University of Florida; and RICHARD HANG, The Ohio State University.

78 *pp.*, 8½ *x* 11, *illus.* (1960).....$4.50*c*

Designed to accompany FUNDAMENTALS OF ENGINEERING DRAWING by French and Vierck. This workbook covers the fundamentals of the subject in a logical and straightforward manner. The problems, selected to give a well-rounded background in drawing technique, provide the student with exercises and problems that lead to an understanding of the subject matter and an ability to read and write the graphic language. An instruction booklet contains all directions, references and visual material needed by the student, and includes adequate space for notes and sketches.

CONTENTS—Instruments and Their Use. Applied Geometry. Lettering. Orthographic Drawing and Sketching. Pictorial Drawing and Sketching. Auxiliaries: Normal and Edge Views. Sections and Conventions. Intersections and Developments. Dimensions, Notes, Limits and Precision Dimensioning. Screw Threads and Threaded Fasteners. Working Drawings. Tracing Paper. The Slide Rule: Instruction Booklet.

GRANT—Engineering Drawing Problems, Series 1

By HIRAM E. GRANT, Professor Emeritus, Washington University.

60 *sheets*, 10 *x* 12 (1960).....$5.50*c*

A cross-section of over 3000 actual industrial problems selected by Professor Grant expressly for this workbook, these practical engineering problems are used to secure student interest and facility in drawing technique. It includes such features as: logical progression from one problem to another, a graduated degree of difficulty, new teaching techniques to aid in problem analysis, assembly drawings accompanying all dimensional problems, consistently excellent draftsmanship, large (10 x 12) size pages. The problems book stresses dimensioning and blueprint reading, orthographic projections, dimension and pictorial drawing.

CONTENTS—Preface. Note to Students. Key to Four Texts. General Requirements. Workplan. Instructional Information. Alphabet of Lines. Lettering. The Glass Box. Freehand Sketching. Geometric Constructions. Normal Surfaces. Inclined Surfaces. Oblique Surfaces. Cylindrical Surfaces. Plotted Curves. Sectioning. Auxiliary Views. Threads. Fasteners. Springs. Dimensioning. Left-Hand and Right-Hand Drawing. First-Angle Projection. Pictorial Drawing. Detail (Working) Drawings. Blueprint Reading. Design Layout. Assembly Drawing. Ink Tracing. Vellum Paper.

GRANT—Engineering Drawing

Combination Text-Workbook

By HIRAM E. GRANT, Professor Emeritus, Washington University.

192 *pp.*, 8½ *x* 11, 410 *illus.* (1962)...$9.75*c*

By combining this text with the problems workbook, the instructor and student are provided with all necessary materials, thoroughly integrated, for the basic course at a lower cost than the standard text and problems book. The text stresses industrial practices and fills the need for a highly selective and streamlined text in engineering drawing. The combined text and workbook consists of three elements (1) a textbook containing 380 line drawings and 40 halftones (2) a set of 60 drawing problems sheets directly correlated with the text (3) a 40 page booklet consisting of key to the textbook and four reference texts, workplan and 24 pages of problems to be laid out on blank paper. The book is practical in approach and oriented toward the most modern industrial applications and practices obtained by personal visits to many industrial concerns.

GRANT—Engineering and Architectural Lettering

By HIRAM E. GRANT, Professor Emeritus, Washington University.

32 *pp.*, 9 *x* 6, *illus.* (1960).....$1.50*c*

A carefully thought-out, easy-to-use engineering lettering booklet suitable for lettering practice in engineering drawing and descriptive geometry courses. It contains both vertical and inclined lettering in one booklet. Convenient page size, helpful illustrations, new layout of pages make it easier for the student to understand and become proficient in lettering practice.

CONTENTS—Vertical and Inclined Engineering Lettering with Instructions. Architectural Lettering. Old English Lettering with Instructions. Pictorial Lettering. Title Blocks. Engineering Drawings. Architectural Detail Drawings. Graphs.

HILL—Problems in Graphical Analysis

By PERCY H. HILL, Tufts University.

162 *pp.*, 11 *x* 17 (1959).....$5.50*c*

Introduces the student to engineering graphics through the solution of carefully designed problems which are intended not only to teach the fundamentals involved but to exercise and challenge the student's reasoning ability and ingenuity. The book offers exercises in the communication of three-dimensional space in a two-dimensional medium; stimulates the student's power of analysis, synthesis, and creativity through the graphical solution of selected problems; and introduces creative design to the student at an early time in his engineering education.

CONTENTS—Preface. To the Student. Notation and Symbols. Instructions for Problem-sheet Alignment and Title Strip. Lettering, L-1, 2. Fundamental Concepts, C-1 to C-5. Orthographic Projection, 0-1 to 0-10. Auxiliary Projection, A-1 to A-8. Solution of Spherical Triangles, S1, 2. Intersections, Int.-1 to Int.-3. Sectioning, Sec.-1 to Sec.-4. Dimensioning, D-1 to D-4. Estimating of Quantities, Q-1 (A,B,C). Development of Surfaces, Dev.-1 to Dev.-3. Isometric Projection, Iso.-1 2. Oblique Projection, Ob.-1 2. Perspective Projection, P-1 to P-3. Threads and Fasteners, T-1. Detail Drawing, Det.-1. Topography—Highway Cuts and Fills, To.-1. Space Curves and Warped Surfaces, SW-1 to SW-4. Analysis of Data, G-1 to G-3. Introduction of Nomography, N-1 to N-3. Vector Analysis, V-1 to V-3. Logarithmic Scale vs. Scale Modulus Chart. Contour Interpolation Chart.

LEVENS AND EDSTROM—Problems in Engineering Drawing

Series V

By A. S. LEVENS, University of California and A. E. EDSTROM, City College of San Francisco.

132 *pp.*, 10 *x* 12 (1960).....$5.50*c*

This book provides an up-to-date, effective treatment of problems for engineering drawing. Arrangement is conducive to the development of the learning and thinking process. A significant feature of "Series V" is the inclusion of basic problems which materially assist the student in understanding the fundamental principles of the theory of orthographic projection. Experience and knowledge gained by understanding basic problems will enable the student to realize the relationship among two principal views and an associated auxiliary view are no different from the relationship among three principal views. His ability to analyze three-dimensional problems will be strengthened.

CONTENTS—Lettering Exercises. Alphabet of Lines. Lettering and Linework Exercise. Applied Geometry. Cooling Fin and Tube Support. Missing View Problems. Theory of Projection. Use of the Scale. Freehand Orthographic Sketching. Freehand Isometric Sketching. Circles in Isometric. Hidden Line Technique. Orthographic Drawings—Missing Lines. Orthographic Drawings—Missing Views. Orthographic Drawing. Circles in Oblique. Oblique Drawing. Basic Problems—Auxiliary Views. Auxiliary Views. Sections and Conventional Practices. Threads and Fasteners. Dimensioning. Limit Dimensioning. Working Drawings. Charts. Appendix.

McNEARY, WEIDHAAS, AND KELSO—Creative Problems for Basic Engineering Drawing

By MATTHEW MCNEARY, ELIZABETH A. KELSO, University of Maine and ERNEST R. WEIDHAAS, Pennsylvania State University.

52 *pp.*, 11 *x* 17, *illus.* (1957).....$4.95*c*

Presents problems that will give the student a thorough grounding in theory and necessary skills, and introduces the student to situations that require creative decisions. The book covers the material usual in first-year courses: lettering, instrumental drawing, sketching, orthographic projection, sectional views, auxiliary views, graphics, pictorial drawing (including perspective), fasteners, detail drawings, and assembly drawings.

CONTENTS—Lettering Sheets—Vertical Letters. Lettering Sheets—Slant Letters. Introduction to Instruments. Applications. Applied Geometry. Orthographic Sketching. Missing Lines. Missing Views. Dimensioning. Detail Drawings. Sectional View Exercises. Sectional Views. Auxiliary View Exercises. Auxiliary Views. Graphics. Axonometric Theory. Pictorial Drawings. Perspective Exercises. Two-point Perspective. Fasteners. Working Drawings. Topography. 20 x 20 Cross-section Graph Sheet. Isometric Sketching Sheets. ¼" Cross-section Sketching Sheets. Tracing Sheets. Buff Drawing Sheets

WEIDHAAS—Applied Descriptive Geometry Problems

By ERNEST R. WEIDHAAS, The Pennsylvania State University.

176 *pp.*, 8½ *x* 11 (1961).....$3.95*c*

This collection of practical descriptive geometry problems from many fields encourages the transition from academic theory to practical application, by introducing the student to as wide a variety of practical problems as possible. It requires the application of the principles of descriptive geometry to actual industrial problems, and reinforces the practical aspect of problems by using photographs in place of drawings, introducing the companies supplying problems, and by giving background description of practical usage.

ZOZZORA—Engineering Drawing

By FRANK ZOZZORA, The University of Delaware. Second Edition.

391 *pp.*, 8½ *x* 11, 864 *illus.* (1958)..$7.75*c*

Engineering Drawing Problems. Second Edition.

192 *pp.*, 11¼ *x* 11 (1958).....$4.75*c*

A concise, profusely illustrated text emphasizing step-by-step procedures in engineering drawing. Both the text and the problems have been prepared to meet the needs of students at any level from trade school to university. This text will enable the student to cover the fundamentals of engineering drawing, descriptive geometry, and graphical analysis, in the short time allotted and to acquire those fundamentals basic to any drawing he may do in industry.

CONTENTS—Preface. Correlated Engineering Drawing Films. Introduction. Engineering Lettering. Orthographic Projection. Freehand Detail Drafting. Instruments and Their Use. Geometrical Constructions. Shop Processes. Dimensioning. Sectioning and Conventional Practices. Primary Auxiliary Views. Secondary Auxiliary Views. Pictorial Drawing. Common Fasteners. Assembly Drawing. Structural Drawing. Descriptive Geometry. Intersections and Developments. Cams, Gears, Jigs, and Fixtures. Electrical Drawing. Charts, Graphs, and Nomographs. Inking Procedure. Bibliography. Appendix. Index.

ARNELL—Standard Graphical Symbols

A Comprehensive Guide for Use in Industry, Engineering, and Science

By ALVIN ARNELL, Halm Instrument Company, Inc.

536 *pp.*, 8½ *x* 11, 8,825 *illus.* (1963).$14.00*i*

This comprehensive reference book contains more than 9,000 illustrations of symbols for use on drawings, plans, and specifications in a variety of fields. Areas of technology for which symbols are presented include electronics (both vacuum-tube and solid-state), electrical, instrumentation and control, computers, logic-data, aeronautical, mechanical (bearings, chains, fasteners, fluid power, marine propulsion, pipe fittings and valves), welding, structural, heating, power, ventilation, air conditioning, time-study, architectural, drafting aids, topography, cartography, geology, and meteorology. Where several accepted symbols are in use, each is shown so the user of the book can choose that symbol best suited for his purpose. The book also features a comprehensive list of abbreviations for use on drawings. A detailed index allows easy location of symbols.

Engineering Graphics

ARNOLD—Introductory Graphics

By J. NORMAN ARNOLD, Purdue University.

543 *pp.*, 6 15/16 *x* 10 (1958).....$8.50*c*

This book emphasizes graphical solutions to engineering and mathematical problems. It covers basic drafting operations and tools, techniques of pictorial representation (projections, freehand drawing, schematics, etc.), vectorial methods, and creative design. A chapter on map projections is included. There are chapter-end exercises, and a special appendix of tables and data useful in drafting practice. The book is profusely illustrated.

CONTENTS—PART I. GRAPHICAL EQUIPMENT AND ITS USE. Graphical Tools and Geometry Principles. Technique of Lettering and Inking. PART II. GRAPHICAL REPRESENTATION. A) APPLIED TO PHYSICAL OBJECTS. Multiview Drawing. Pictorial Drawing. Freehand Drawing and Shading. Drawings for Construction. B) APPLIED TO DATA AND PHENOMENA. Representation of Data. Representation of Equations. Vectors. Schematic Drawing. PART III. GRAPHICAL SOLUTION OF PROBLEMS. A) APPLIED TO PHYSICAL OBJECTS. Contoured Surfaces and Associated Curves. Intersections. Developments. Space Problems of Angle and Distance. Functional Design. Map Projections. B) APPLIED TO DATA AND PHENOMENA. Graphs for Forecasting; Empirical Equations. Graphical Calculus. Appendix. Index.

DOUGLASS AND ADAMS—Elements of Nomography

By RAYMOND D. DOUGLASS and DOUGLAS P. ADAMS, Massachusetts Institute of Technology.

209 *pp.*, 6 *x* 9, 111 *illus.* (1947).....$6.95*c*

Covers the design and practical applications of the alignment diagram. Seven elementary types, representing 75% of the diagrams ordinarily required in practice, are presented, each characterized by its physical appearance and the equations it represents.

CONTENTS—Definition and Reading of Scales. Scale Equations. Uniform and Nonuniform Scales. Adjustment of Scales to Size. Adjustment of Scales to Zero

Point. Drafting the Scale. Stationary Adjacent Scales. Simple Alignment Diagrams. The Basic Parallel-line Diagram for the Equation U. V. W. Substitutions. The Use of Printed Forms. Dependent and Independent Variables. Limits. Simple Variations in Chart Form. Multiplication by the Type II Diagram. A Diagram Based on Two Parallel Lines and a Third Slanting Line. The Hexagonal Alignment Diagrams for the Equation $\frac{1}{U} + \frac{1}{V} = \frac{1}{W}$. The Circular Nomogram for the Equation U. V. W. Compound Alignment Diagrams. Graphical Devices. Analytic Geometry Diagrams. Index.

FRENCH AND VIERCK—Graphic Science Engineering Drawing—Descriptive Geometry —Graphical Solutions

By THOMAS E. FRENCH, and CHARLES J. VIERCK, University of Florida.

760 *pp.*, 7½ *x* 10, *illus.* (1958).....$8.95*c*

This is the first book to combine successfully in one volume the three core subjects in drawing: engineering drawing, descriptive geometry, and graphics. The focus throughout is on drawing as a tool for the engineer. Emphasis is on the "science" of graphics, rather than the "art" of graphics, in line with current engineering thinking. The book will help the engineer become more competent to specify the graphic procedures to be used in engineering work of a wide variety.

CONTENTS—Introduction. ENGINEERING DRAWING. Instruments and Their Use. Applied Geometry. Lettering. Theory of Projection Drawing. Practice of Projection Drawing. Auxiliary and Oblique Views. Sections and Conventions. Pictorial Drawing. The Drawings and the Shop. Dimensions, Notes, Limits, and Precision. Screw Threads, Fasteners, Keys, Rivets, and Springs. Working Drawings. DESCRIPTIVE GEOMETRY. Points, Edge, and Normal Views. Points and Straight Lines. Straight Lines and Planes. Curved Lines, Curved and Warped Surfaces. Intersections and Developments. Vector Geometry. GRAPHICAL SOLUTIONS. Charts, Graphs, and Diagrams. Graphical Solutions. Functional Scales. Nomography. Empirical Equations. Graphic Calculus. Glossary of Technical Terms. Bibliography of Allied Subjects. Appendix. Index.

RULE AND COONS—Graphics

By JOHN T. RULE and STEVEN A. COONS, both Massachusetts Institute of Technology.

496 *pp.*, 6 *x* 9, 575 *illus.* (1961).....$8.95*c*

Concentrates on the use of graphics as an instrument of engineering analysis. Demonstrates how graphics can be used as a powerful tool for solving mathematical problems, and how it provides a greater insight into problem solution than does the symbolic manipulations of mathematics. Also emphasized is the use of graphics as an instrument of conceptualization involving sketching of both a design idea and problem situations.

CONTENTS—Preface. Introduction. The Role of Drawing in Machine Design and Production. Equipment and Its Uses. Line and Circle Constructions. Orthographic Projection and Standard Practices. Freehand Sketching. Dimensioning Machine Drawings. Sectional Views. Fasteners. Working Drawings. The Construction of Conic Sections. View Systems—Points and Straight Lines. Straight Lines and Planes. Systematic Solution of Problems. Circles, Curves, and Warped Surfaces. Intersections and Developments. Pictorial Drawing. Graphics and Accuracy. Projective Constructions. Vectors. Scales, Slide Rules, and Nomograms. Empirical Curves. Periodic Functions. Graphical Calculus. Coordinate Systems. Flow Diagrams. Differential Equations. Graphical Investigations. Field Mapping. Projects.

VIERCK AND HANG—Graphic Science Problems, 2nd Ed.

By CHARLES J. VIERCK, Univ. of Florida; and RICHARD I. HANG, The Ohio State Univ.

334 *pp.*, 8½ *x* 11, 340 *illus.* (1963)..$5.95*c*

Covers engineering drawing, descriptive geometry, and graphic solutions. This new edition consists of an instruction booklet and a series of unbound problem sheets. The instruction booklet devotes more space to basic problem information, pictorial aids, and calculations; the unbound problem sheets allow maximum flexibility of course sequence.

WEIDHAAS—Creative Problems in Engineering Graphics

By ERNEST R. WEIDHAAS, The Pennsylvania State University.

70 *sheets*, 17 *x* 11 (1961).....$4.95*c*

Features the *creative design element*. This design element (starting with simple design decisions and working up to truly creative design), serves to place graphics in proper focus —as an aid in engineering design and as a means of communicating that design to others. It encourages the latent creative talents of our future engineering designers. Creative design decisions are required throughout. The student must repeatedly go through the sequence: idea, design sketch, design drawing. Although new topics, included to keep pace with the trend toward engineering science in contemporary engineering education, class this book as an engineering "graphics" book—it can be equally useful in an engineering "drawing" course.

CONTENTS—Preface. *Sheet 1*—Orthographic Sketching. *Sheet 2*—Orthographic Sketching. *Sheet 3*—Missing Lines—Sketching. *Sheet 4*—Missing Lines—Sketching. *Sheet 5*—Applied Geometry. *Sheet 6*—Missing Views—Instrumental. *Sheet 7*—Dimensioning—Basic. *Sheet 8*—Dimensioning—Shop Notes. *Sheet 9*—Limit Dimensioning. *Sheet* 10—Sectional-view Exercises. *Sheet 11*—Detail Drawing—Basic. *Sheet 12*—Detail Drawings—Creative. *Sheet 13*—Auxiliary-view Exercises. *Sheet 14*—Auxiliary Projection. *Sheet 15*—Axonometric Theory. *Sheet 16*—Isometric Drawing. *Sheet 17*—Isometric Drawing. *Sheet 18*—Oblique Projection. *Sheet 19*—Perspective Exercises. *Sheet 20*—Two-point Perspective. *Sheet 21*—Fasteners. *Sheet 22a, b, c*—Working Drawings—Reading. *Sheet 23*—Creative Design. *Sheet 24*—Rapid-design Project. *Sheet 25*—Graphs—Analytical Data. *Sheet 26*—Graphs—Empirical Data. *Sheet 27*—Graphical Mathematics. *Sheet 28*—Graphical Differentiation—Basic. *Sheet 29*—Graphical Differentiation. *Sheet 30*—Graphical Integration. *Sheet 31*—Nomography. *Sheet 32*—Electrical Drawing—Wiring Diagram. *Sheet 33*—Electrical Drawing—Schematic Diagram. *Sheet 34*—Piping. *Sheet 35*—Gearing. *Isometric Grid Sketch Paper.* ¼" *Grid Sketch Paper. Tracing Vellum. Buff Drawing Paper. Polyester Film.*

Descriptive Geometry

GRANT—Practical Descriptive Geometry Regular Edition without Problems

By HIRAM E. GRANT, Professor Emeritus, Washington University.

253 *pp.*, 6 *x* 9 (1952).....$5.50*c*

Correlates and integrates theory and practice, instead of considering each as a separate entity. Emphasis throughout is on accuracy. New methods are given for solving many fundamentals. Illustrations are well explained with numerous notes. Practical applications of theory are stressed. A workbook for use with this text is available from the author.

CONTENTS—Preface. Introduction. Reference Planes. The Basic Lines and Planes. Basic Auxiliary Views. Points and Lines. Lines and Planes. Revolution. Force Diagrams. Point, Line, and Plane Relations with Cylinders. Cones and Spheres. Coric Sections and Their Applications. Mining, Geology, and Civil Engineering. Shades and Shadows. Curved Surfaces. Plane and Curved Surface Intersections. Developments. Transitions and the Helix. Intersection of Surfaces. Graphical Accuracy.

GRANT—Practical Descriptive Geometry Alternate Edition with Problems

By HIRAM E. GRANT, Professor Emeritus, Washington University.

403 *pp.*, 6 *x* 9, *illus.* (1956).....$5.95*c*

The Alternate Edition is the same as the author's regular edition, except that 925 problems have been added, made up 405 theoretical problems and 520 practical problems. Most of the problem material was obtained by personal visits to approximately 300 United States and Canadian industrial firms who placed their files at the author's disposal. The problems are accompanied by 415 drawings.

CONTENTS—Reference Planes. The Basic Lines and Planes. Basic Auxiliary Views. Points and Lines. Lines and Planes. Revolution. Force Diagrams. Point, Line and Plane Relations with Cylinders. Cones and Spheres. Conic Sections and Their Applications. Mining, Geology, and Civil Engineering. Shades and Shadows. Curved Surfaces. Plane and Curved Surface Intersections. Developments. Transitions and the Helix. Intersection of Surfaces. Graphical Accuracy.

HOOD AND PALMERLEE—Geometry of Engineering Drawing

Descriptive Geometry by the Direct Method
By GEORGE J. HOOD, Emeritus, University of Kansas, and ALBERT S. PALMERLEE, University of Kansas. Fourth Edition.
347 *pp.*, 6 *x* 9, 295 *illus.* (1958)....$5.95*c*
Problem Sheets (1958).....$4.25*c*

This pioneer text in introducing the direct method of teaching descriptive geometry adopts the procedures, vocabulary, and point of view of the engineer as he visualizes and designs structures. New material and many new illustrations appear in this thoroughly revised edition along with 960 entirely new problems.

CONTENTS—Preface. The Engineer and Engineering Drawings. Principal Views. Auxiliary Views. Oblique Views. Straight Lines. Curved Lines. Planes. Intersection and Development of Surfaces. Single-curved Surfaces. Warped Surfaces. Double-curved Surfaces. Topographical and Mining Problems. Pictorial Views. Projection Method and Direct Method. Problem Section. Index.

SHUPE AND MACHOVINA—A Manual of Engineering Geometry and Graphics for Students and Draftsmen

By HOLLIE W. SHUPE and PAUL E. MACHOVINA, Ohio State University.
359 *pp.*, 6⅛ *x* 9⅛, 357 *illus.* (1956)..$6.50*c*
Engineering Geometry and Graphic Problems
150 *pp.*, 8½ *x* 11 (1957).....$4.25*c*

Provides, in addition to the text material needed in engineering geometry, material for a more general coverage of graphic solutions. The theory of orthographic projection is presented in connection with engineering geometry and employs reference planes placed in convenient positions. Folding lines and plane traces are not used. Wherever applicable, drawings showing problem solutions are separated into stages to illustrate the step by step procedure, and to avoid complexity.

CONTENTS—Introductory Accuracy, Precision in Layout, and Equipment. Graphic Arithmetic, Engineering Geometry. Orthographic Projection. Definitions and Basic Views of Points and Lines. Definitions and Basic Views of Planes—Development of Polyhedrons. Intersection of Lines, Planes, and Polyhedrons. Parallel Relationships of Lines and Planes. Perpendicular Relationships of Lines and Planes. Curved Lines and Their Tangents. Single-curved Surfaces. Intersections and Tangents of Single-curved Surfaces. Angular Relationships. Warped Surfaces. Double-curved Surfaces. Map Projections. Vectors. Graphic Scales. Stationary Adjacent and Sliding Scales. Alignment Charts or Nomography. Empirical Curves and Equations. Graphic Calculus. Bibliography. List of Visual Aids. Index.

WARNER AND McNEARY—Applied Descriptive Geometry

By FRANK M. WARNER, University of Washington, and MATTHEW MCNEARY, University of Maine. Fifth Edition.
243 *pp.*, 6⅜ *x* 9¼, *illus.* (1959).....$5.95*c*
Applied Descriptive Geometry Problem Book (Warner-Douglass), Fifth Edition.
128 *pp.*, 11 *x* 17, *illus.* (1959).....$4.50*c*

The present edition retains all the features that have made the book so popular in the past—conciseness, readability, and challenging applied problems. The book is brief, but covers all the essentials. Nomenclature is kept simple. In this fifth edition several new applied problems have been added, and definitions have been modified and fully illustrated. Sections have been added on visibility, shortest level line and shortest line of given slope between two lines, contour map problems, geology applications, coplanar vectors, and the fairing of complex double-curved surfaces.

CONTENTS—Preface. Orthographic Drawing. Fundamental Auxiliary Views. Point, Line, and Plane Problems. Revolution. Vector Geometry. Curved Lines and Surfaces. Intersection of Surfaces. Practice Problems. Applied Problems. Appendix. Index.

WELLMAN—Technical Descriptive Geometry

By B. LEIGHTON WELLMAN, Worcester Polytechnic Institute. Second Edition.
640 *pp.*, 6 *x* 9, *illus.* (1957).....$6.95*c*
Alternate Problem Layouts for Technical Descriptive Geometry, Second Edition
236 *pp.*, 8½ *x* 11, 110 *illus.* (1960)..$4.75*c*

Written in simple language, arranged in an easy-to-read format, and generously illustrated, this book provides a comprehensive and modern treatment of the theory and practical applications of descriptive geometry. The popular auxiliary view method is reduced to its simplest elements, and the entire subject is developed realistically from a natural, logical viewpoint. There are no imaginary planes and projections. Consistent with industrial practice, attention is concentrated on the object itself, and the direction of sight for the various views is emphasized.

CONTENTS—Preface. Code of Lines and Symbols. Correction Symbols for Instructor's Use. Multiview Engineering Drawings. Auxiliary Views. Points and Lines. Plane Surfaces. Revolution. Single-curved Surfaces. Warped Surfaces. Double-curved Surfaces. Intersection of Surfaces. Development of Surfaces. Vector Applications. Geology and Mining Applications. Problems. Appendix. Index.

Mechanical Drawing

FRENCH AND SVENSEN—Mechanical Drawing

By THOMAS E. FRENCH and CARL L. SVENSEN, Consulting Engineers, Austin and Lubbock, Texas. *Series in Engg. Drg.* Sixth Edition.
448 *pp.*, 6⅜ *x* 9¼, 1075 *illus.* (1957).$5.96*s*
Correlated Text-Film Series—Eight 16mm sound motion pictures.....$540.00
Set 3, Six filmstrips (three B & W) each $6.00
(three Color) each $8.50
set $42.00
Set 4, Six filmstrips (color).....each $8.50
set $48.00

The Sixth Edition, revised by Carl L. Svensen, retains all the features which have made this book the leading high school textbook in this field. It provides a double-column format, allowing space for larger drawings and photographs; easy-to-read typography; carefully controlled vocabulary; over 1000 illustrations; and chapters on reading drawings, electrical drafting, and architectural drafting. Listing of graded problems at the end of each chapter enables the teacher to relate problems to the text and to assign material according to the ability of individual students. The workbooks by

Levens and Edstrom—Problems in Mechanical Drawing, First and Second Courses—are correlated with this textbook.

CONTENTS—The Language of Drawing. Learning to Draw. Lettering. Geometrical Constructions. Theory of Shape Description. Sketching. Reading and Making Drawings. Sections. Auxiliary Views and Revolutions. Principles of Size Description. Technique of the Finished Drawing. Screws, Bolts, and Other Fastenings. Mechanical Drafting. Pictorial Drawing. Production Illustration. Aircraft Drafting. Welding Drawings. Electrical Drafting. Cams and Gears. Sheet-metal Drafting. Architectural Drafting. Structural Drafting. Map Drafting. Problems.

LEVENS AND EDSTROM—Problems in Mechanical Drawing, First Course

By A. S. LEVENS, University of California, and A. E. EDSTROM, City College of San Francisco. 1958 Edition.

73 *plates*, 8½ *x* 11 (1957)....Paper $2.64*s*

These problem plates, on three different types of paper—white, buff, and vellum—contain problems that stimulate students to grasp the theory of orthographic projection and its application. This workbook, and the *Second Course*, are keyed to the Fifth and Sixth Editions of French and Svensen's *Mechanical Drawing*.

CONTENTS—Lettering Exercises. Ruling of Lines. Alphabet of Lines. Use of the Scale. Use of the Compasses. Elementary Geometric Constructions. One View Drawings—Use of Instruments. Identification of Surfaces. Hidden Line Treatment. Missing View Problems. Orthographic Projection. Freehand Sketching, Orthographic, Isometric, and Oblique. Auxiliary Views. Use of the French Curve. Orthographic Projection with Auxiliary Views. Isometric Drawing—Using Instruments. Dimensioning—Practice Sheet. Dimensioning Exercises. Working Drawings.

LEVENS AND EDSTROM—Problems in Mechanical Drawing, Second Course

By A. S. LEVENS, University of California, and A. E. EDSTROM, City College of San Francisco. 1958 Edition.

56 *plates*, 8½ *x* 11 (1958)....Paper $3.36*s*

These problem plates, on two different types of paper—buff and vellum—contain follow-up problems on specific machine parts to round out the year's course in mechanical drawing. This workbook, and the *First Course*, are keyed to the Fifth and Sixth Editions of French and Svensen's *Mechanical Drawing*.

WELCH—Basic Mechanical Drawing

By HERBERT E. WELCH, Stockton College, Stockton, California.

406 *pp.*, 7¼ *x* 9⅞, 606 *illus.* (1959).$5.80*v*

This is a first book in mechanical drawing, requiring no previous knowledge of the subject. Written in the simplest language, it is organized on a lesson-by-lesson basis. It tells the student exactly *what to do* and *how to do it, what to draw* and *how to draw it*. Lessons are short, each covering one topic and usually including a drawing exercise. On every few pages, there are additional problems. *Basic Mechanical Drawing* is a skill-building book that emphasizes skill on the drawing board. At every step, it encourages the student to draw and emphasizes self-teaching as far as possible. The book is ideally suited for the drafting teacher who wants to put his students to work immediately and let them progress at their own speed, giving them additional coaching when needed. The book contains enough material for a full year's course.

CONTENTS—Tool Use and Care. Learning to Letter. View Drawing. Dimensioning Your Drawings. Drawing Angles and Slanting Surfaces. Drawing Round Objects. Tangents. The Ellipse. Drawing Sectional Views. Machine Fastenings: Bolts and Nuts. Technical Sketching. Working Drawings. Tracings. Duplicating Drawings. Drawing with Ink. Sheet-metal Pattern Drawing. Pictorial Drawing. Perspective Drawing.

Architectural Drawing

BELLIS AND SCHMIDT—Architectural Drafting

By HERBERT F. BELLIS, Mondell Institute, and WALTER A. SCHMIDT, Long Island Agricultural and Technical Institute.

118 *pp.*, 8¼ *x* 11, 70 *illus.* (1961)...$5.50*r*†

Introduces the student to the basic practices of Architectural Drafting. It is intended for those with little or no knowledge of the field, those who wish to learn the draftmanship technique involved in architectural drawings, or to better understand and read them. Beginning with a description of the necessary tools and equipment, and the fundamentals of drafting, the text proceeds with step-by-step directions that explain the production of an architectural plan or drawing. It covers the drafting to be accomplished, from the sharpening of a pencil to up-to-date drafting room practice.

CONTENTS—Foreword. Introduction. Selection and Use of Tools. Lettering. Lines, and Dimensions. Geometric Construction. Orthographic Projection. Pictorial Representation. Perspective Drawing. Construction Details. More Construction Details. Conventions, Symbols, and Title Box. Reproduction of Drawings. Tracing. Frame Garage. Frame Residence. Orientation. Masonry Building. Specifications. Glossary of Words and Terms. Abbreviations. A Final Word.

KENNEY AND McGRAIL—Architectural Drawing for the Building Trades

By JOSEPH E. KENNEY, South Boston High School and University of Massachusetts Extension, and JOHN P. MCGRAIL, University of Massachusetts Extension.

128 *pp.*, 9 *x* 12 (1949).....$6.00*v*

An introduction to architectural drawing which shows the student drafting instruments, tells him how to use them and gives him exercises for practice in their use. By carefully guided and progressive steps, it takes him through the various stages of draftsmanship to the point where he may be considered sufficiently competent in the use of tools and ready for the study of design. Lessons in concrete, wall, brick veneer wall, solid brick, and wood frame construction indications are included.

CONTENTS—Drawing Instruments and How to Use Them. Principles of Lettering. Geometrical Construction. Graphical Representation. Pictorial Drawing. Orthographic Projection. Moldings and Cabinetmaking Joints. Symbols. Schedules and Conventions. Concrete-wall Indications. Brick-veneer-wall Indications. Solid-brick- and Wood-frame Construction Indications. Framing Details. Progressive Steps for Drawing Details of Sill Construction. Sill Construction for Today's House. Progressive Steps for Drawing Double-hung Windows. Wood- and Steel-casement Windows. Exterior Door in Wood-frame Construction. Exterior Door in Brick Wall. Progressive Steps for Drawing a Cornice Detail. Cornice Details for Small House and Porch. Corner Window. Fireplace Detail. Stair Detail. Progressive Steps for Laying Out a Floor Plan. Progressive Steps for Drawing an Elevation. A Plywood House. The Marshfield House. Brickwork. Structural Details. A Modern Corner Store. Department-store Fixtures.

MORGAN—Architectural Drawing

By SHERLEY W. MORGAN, Princeton University.

228 *pp.*, 9 *x* 12, 110 *illus.* (1950)....$10.50*c*

A text for architectural students, draftsmen in offices, and designers of all types. Assuming a knowledge of the use of drafting instruments and of orthographic projection, including elementary descriptive geometry, this volume

† *Textbook edition available at educational list price.*

develops the theory of Linear Perspective, reduced to a few principles of universal application rather than expressed as a "method" with special applications to each problem.
CONTENTS—Introduction. Uses and Limitations of Perspective. Further Perspective Phenomena. The Office Method. Perspective Plan—Measuring Points. Aids in Development of the Picture. Light, Shade, and Shadow. Aerial Perspective (Rendering). Special Procedures. The Ten Basic Rules of Perspective. Rendering Orthographic Drawings. Special Problems in Shadows (Assuming R° Light). Symbols and Definitions.

Electrical Drafting

BAER—Electrical and Electronic Drawing
By CHARLES J. BAER, University of Kansas.
218 *pp.*, 6 *x* 9 (1960).....$6.00*c*
This is the first new text in this field in a number of years. It is designed (1) to serve as a complete text for a course in electrical-electronic drafting for those preparing for careers in drafting, electrical drafting, and related fields; (2) to serve as a drawing-room reference for persons engaged in the preparation and reading of electrical drawings; and (3) to provide a comprehensive picture of the entire electrical drawing field and to show the latest symbology and practice in accordance with the ASA, IRE, and military standards now in effect.
CONTENTS—Preface. Lettering. Pictorial Drawing. Electrical and Electronic Symbols. Wiring (Connection) Diagrams. Block Diagrams. Electron Tube and Transistor (Semiconductor) Symbols. Electronic Schematic Diagrams. Industrial Electronic Diagrams. Electric Power Drawing. Electrical Drawing for Architectural Plans. Graphs. Appendix—Bibliography. Index.

BISHOP—Electrical Drafting and Design
By CALVIN C. BISHOP, C. T. Gilliam and Associates, Altadena, California. Third Edition.
272 *pp.*, 6 *x* 9, 220 *illus.* (1952).....$5.00*v*
Demonstrates the right way to make electrical drawings to show the contractor just how to do the electrical work. Assumes a fair knowledge of mechanical drafting and electrical apparatus and circuits. The book covers the more important subjects that are encountered in power and light, and offers many practical problems designed to train the reader in applying tables, formulas, and charts in everyday work.
CONTENTS—General Instructions for Mechanical and Electrical Drafting. Circuit Diagrams. Switchboard for a Direct Current Generator. Switchboard for 2300 Volts. Outdoor Substation. Residence Wiring. Layingout Wiring. Illumination. Industrial Plant.

CARINI—Drafting for Electronics
By L. F. D. CARINI, Apparatus Development Co.
211 *pp.*, 6 *x* 9, 186 *illus.* (1946).....$5.00*v*
This pioneer text and reference manual sets forth the principles of schematic drafting as applied to electronics, starting with a review of drafting fundamentals, and covering thoroughly the planning, development, and reproduction of specialized drawings for this field.
CONTENTS—Schematic Drafting. Fundamentals of Instrumental Drawings. Essentials of Lettering. Abbreviations and Letter Symbols. Symmetry and Balance. Schematic Delineation. Schematic Circuit Projection. Schematic Patent Drawing. Industrial Electronics. Technical Outline Drawings. Graphic Integration. Checking of Drawings. Preparing Drawing Prints. Drawings for Reproduction.

KULLER—Electronics Drafting
By K. KARL KULLER, Westrex Corp., N.Y.
296 *pp.*, 6 *x* 9, 661 *illus.* (1962)....$8.00†
The first new text in many years to deal solely with electronics drafting. Designed for an introductory course, it provides a thorough presentation of the drafting practices associated with schematic diagram delineation. Includes sufficient material on basic mechanical drawing to prepare the untrained reader for the subsequent chapters on electronics material. The exceptionally clear presentation makes the text well suited to self study.
CONTENTS—Preface. Introduction. Components and Symbols. Supplementary Symbols. Drafting Techniques. Drafting Aids. Block and Single-Line Diagrams. Standard Circuit Layouts. Basic Schematic Concepts. Drawing Identifications. Systems Drawing. Pictorial Diagrams. Mechanical Diagrams. Appendix: Answers to Review Questions. Glossary. Fraction/Decimal Conversion Table. Color Code and Standard Resistor Values. Color Code for Mica Capacitors. IRE Standards.

Sheet Metal Drafting

BETTERLEY—Sheet Metal Drafting
By MELVIN L. BETTERLEY, The State University of Iowa.
314 *pp.*, 7⅛ *x* 9⅞, 412 *illus.* (1961)..$6.50*c*
Here are the skills and knowledge needed by a high grade craftsman in sheet metal drafting. The book includes all phases of drawing: techniques, projection principles, and descriptive geometry. The first portion reveals basic topics for draftsmen in any industry. This serves as preparation for the sheet metal applications on Parallel line, Radial line, and Triangulation developments. Each chapter closes with a set of questions or problems which consist of model size and full size. Explanation and illustration of the subject using third angle projection exclusively is included.
CONTENTS—Introduction. Instruments and Materials. Instrumental Technique. Lettering. Geometric Constructions. Orthographic Projection. Auxiliary Views. Rotation. Parallel Line Development. Radial Line Development. Triangulation. Combination Problems. Dimensioning. Appendix. Index.

MEYER—Sheet Metal Layout
By LEO A. MEYER, Chabot College.
192 *pp.*, 7 *x* 9⅞, 257 *illus.* (1961)...$5.25*v*
Presents the latest practical shop methods used in sheet metal drafting. Text is designed to give the reader an understanding of the layout method so that he can use the short cut methods intelligently. The material assumes a knowledge of sheet metal pattern drafting. Each chapter presents first, a review of the technically correct method of layout; second, discussion of the shop methods which simplify the layout by use of various shortcuts; and third, discussion of when these short cuts should be used. Text is a companion volume to Betterley *Sheet Metal Drafting* which provides the basic drafting information.
CONTENTS—Pattern Layout. Edges. Clips and Connectors. Seams and Locks. Duct Offsets. Duct Elbows. Duct Work. Square to Rounds. Round Tapers. Round Tees. Round Elbows. Y Branches. Roof Jacks and Caps. Louvers. Rollation. "Trimulation."

Pictorial Drawing

HOELSCHER, SPRINGER, AND POHLE—Industrial Production Illustration
By RANDOLPH PHILIP HOELSCHER, University of Illinois, Chicago Branch, CLIFFORD HARRY SPRINGER, University of Illinois, and RICHARD F. POHLE. Second Edition.
243 *pp.*, 8½ *x* 11, 398 *illus.* (1946)...$8.00*c*
Covers the entire range of pictorial drawing from both theoretical and practical points of

† Textbook edition available at educational list price.

view. Freehand and instrumental layouts are dealt with, and material on shading is presented.

CONTENTS—Uses of Pictorial Drawing. Lettering. Orthographic Projection. Orthographic Sketching. Axonometric Projections—Conventional Construction. Axonometric Projection—Exact Method. Axonometric Sketching. Oblique Projection. Sketching in Oblique. Perspective. Shades and Shadows in Perspective. Perspective Sketching. Shading. Special Equipment for Making Pictorial Drawings. PROBLEMS. LIST OF VISUAL AIDS.

LAWSON—Practical Perspective Drawing

By PHILIP J. LAWSON, Pratt Institute.

215 *pp.*, 6 *x* 9, 170 *illus.* (1943).....$6.00*c*

Provides the student and practicing artist with a text and reference book covering not only perspective as such, but also its application to practical professional drawing jobs. The book gives the basic geometrical principles of perspective, outlines in detail methods for making perspective drawings instrumentally, and shows how these techniques are used by the artist.

CONTENTS—Basic Principles. The Cube. Measurement. The Circle, Ellipse, and Other Two-dimensional Curves. Three-dimensional Curves. Compound Forms. Plastic and Soft Forms. Perspective Composition and Figures in Perspective. Laborsaving Devices. One-point and Three-point Perspective. Common Errors. Working from Blueprints and Other Mechanical Drawings. Practical Suggestions.

McCARTNEY—Precision Perspective Drawing

By T. O. MCCARTNEY, President, Perspective Incorporated, Seattle.

256 *pp.*, 6 *x* 9, 200 *illus.* (1963)....$11.00*i*

Presents techniques for making perspective drawing precise and practical. Its content is written in an orderly sequence. All perspective phenomena pertinent to perspective drawing are identified; the behavior of these phenomena is analyzed to determine their causes and the extent of their effects. This volume is directed toward all who work in the field of illustration.

THOMAS—Technical Illustration

By THEODORE A. THOMAS, El Camino College, California.

149 *pp.*, 8½ *x* 11, *illus.* (1960).....$6.50*c*

Geared to meet industry's needs and requirements, this book will train the reader in industrial methods and help him solve the typical problems that confront a technical illustrator. It emphasizes practical, rather than theoretical, techniques and discusses the basic procedures used to make three dimensional drawings in industry. Several chapters are devoted to a description of special mechanical equipment and its use. Numerous drawings illustrate procedures in a step-by-step fashion.

CONTENTS—Preface. What Is Technical Illustration? Freehand Technical Sketching. The Ellipse and Hexagon Templates. Basic Techniques in Technical Illustration. Oblique Drawing. Axonometric Drawing. Isometric Drawing. Dimetric and Trimetric Drawing. Shading Techniques and Photo Retouching. Perspective Drawing. Inking Methods and Procedures. Special Equipment and Materials. Appendix: American Drafting Standards Manual, Section 4, Pictorial Drawing. Visual Aids. Index.

Topographic Drawing

SLOANE AND MONTZ—Elements of Topographic Drawing

By ROSCOE C. SLOANE and JOHN M. MONTZ, Ohio State University. Second Edition.

251 *pp.*, 4½ *x* 7, 123 *illus.* (1943)...$7.50*c*

A comprehensive treatment, which includes a discussion of the use of the polar planimeter and elements of common forms of map projection. A feature of the book is the discussion of the changes in symbols brought about by advances in military equipment and practice, air transportation, and railway equipment and service.

CONTENTS—Topographic Drawing. Conventional Signs. Topographic Mapping. Topographic Drawing in Colors. Contours and Contour Sketching. Copying—Duplication—Reproduction. Map Projections. Suggestions for Office Practice. Suggested Problems.

Blueprint Reading

KENNEY—Blueprint Reading for the Building Trades

By JOSEPH E. KENNEY, South Boston High School and University of Massachusetts Extension. Second Edition.

120 *pp.*, 9 *x* 12, *illus.* (1955).....$4.00*v*

Explains what blueprints are, how they are drawn, and how they are used by members of the building trades. The author describes how the architect prepares working drawings, and tells how to read these drawings. The working drawings are presented in blueprint form. The author uses the question and answer approach; in the first half of the book he discusses the principles of architectural drawing and in the second half he covers the different classes of construction.

CONTENTS—The Scope of Architecture. The Importance of Blueprints. Blueprints and Their Use. Language of the Blueprint. Symbols. Conventions. Schedules. Scale Representation. Brickwork. Different Types of Blueprints or Drawings. Specifications. Construction Details and Practice Problems. California House. First- and Second-class Construction. Lever House. Modern Concrete House. Store Planning. Estimated Cost of Building. Architectural and Building Terms.

Mechanics

ENGINEERING SOCIETIES MONOGRAPHS

(Engg. Soc. Monog.)

Ralph H. Phelps, Consulting Editor

Editor and Chairman of Committee of
Five National Engineering Societies, Engineering Societies Library

Bakhmeteff—Hydraulics of Open Channels
Bleich—Buckling Strength of Metal Structures
Crandall—Engineering Analysis
Elevatorski—Hydraulic Energy Dissipators
Leontovich—Frames and Arches
Nadai—Theory of Flow and Fracture of Solids Vol. I–II
Timoshenko and Goodier—Theory of Elasticity
Timoshenko and Gere—Theory of Elastic Stability
Timoshenko and Woinowsky-Krieger—Theory of Plates and Shells, 2 Ed.

HANDBOOK OF ENGINEERING MECHANICS

By W. FLUGGE, Stanford University.
1632 *pp.*, 6 *x* 9, 1024 *illus.* (1962).....$27.50*hb*

A wealth of valuable information on the entire field of engineering mechanics is placed at your fingertips in this easy-to-use, comprehensive handbook. It brings you mathematical tools used by the practicing engineer, covering a wide range of subjects from the elementary to the very advanced . . . data on mechanics of rigid bodies, including material on variational principles and gyroscopes . . . and basic ideas and facts on structures. Considerable attention is given to aspects of the theory of elasticity and its application, as well as to plasticity and viscoelasticity. Also covered is mechanical vibrations, including such special subjects as surge tanks, wing flutter, stochastic loads, and acoustics. In addition, the handbook covers the entire field of fluid mechanics, from basic concepts to such special topics as supersonic flow, lubrication, waves, and seepage flow. Clear, concise, reliable, the handbook is written by leading authorities from universities, government laboratories, and industry.

Introductory Mechanics

BASSIN AND BRODSKY—Statics and Strength of Materials

By MILTON G. BASSIN and STANLEY M. BRODSKY, New York City Community College.
360 *pp.*, 6 *x* 9, 495 *illus.* (1960)....$7.00*c*

Based on Leigh and Mangold's PRACTICAL MECHANICS AND STRENGTH OF MATERIALS, this new text is designed to keep pace with modern engineering practice. Sections dealing with mechanics have been grouped into the first six chapters. The final chapters constitute a unified sequence in strength of materials. The book includes solutions to sample problems, illustrations, and a selection of supplementary problems, new and practical tables, and a detailed list of formulas. It does not require the use of calculus. All symbols used conform to the recommendation of the American Standards Association.

CONTENTS—Fundamental Terms. Resultant and Equilibrant of Forces. Moments. Non-concurrent—Coplanar Forces; Trusses. Concurrent—Noncoplanar Forces. Static and Kinetic Friction. Simple Stresses. Properties of Materials. Riveted, Welded Joints and Thin-walled Cylinders. Center of Gravity, Centroids, and Moment of Inertia. Beams—Shear Forces and Bending Moments. Beams—Design. Torsion. Shafts, Shaft Couplings, and Keys. Combined Stresses. Columns. Indeterminate Beams Appendix: Typical Mechanical Properties of Metals; Typical Properties of Timber; Unified and American Screw Threads; WF Shapes; American Standard Beams; American Standard Channels; Section Modulus Table; Angles—Equal Legs; Angles—Unequal Legs; Timber—American Standard Sizes; Rectangular and Polar Moment of Inertia, Section Modulus, and Radius of Gyration of Simple Areas; List of Formulas.

BEER AND JOHNSTON—Mechanics for Engineering, 2nd Ed.

By FERDINAND P. BEER, Lehigh Univ.; and E. RUSSELL JOHNSTON, Univ. of Connecticut.
Combined Volume
792 *pp.*, 7⅛ *x* 9¼, 1569 *illus.* (1962) $10.75*c*
Statics Volume
408 *pp.*, 7⅛ *x* 9¼, 864 *illus.* (1962)..$6.50*c*
Dynamics Volume
369 *pp.*, 7⅛ *x* 9¼, 705 *illus.* (1962)..$6.50*c*

Retains the traditional approach to statics and dynamics. The authors stress the concept of equivalent systems of forces, derive the fundamental equations of equilibrium and motion without vector calculus; but point out the vectorial character of forces, velocities, accelerations, and momenta through the use of boldface type. This helps distinguish them from scalar quantities. Problems are grouped according to difficulty and the material they illustrate. New problems relate to space mechanics and involve use of gravitational potential energy. Of the approximately 2200 problems, 80% are new.

CONTENTS—COMBINED VOLUME. Introduction. Statics of Particles. Statics of Rigid Bodies in Two Dimensions. Statics of Rigid Bodies in Three Dimensions. Distributed Forces: Centroids and Centers of Gravity. Analysis of Structures. Forces in Beams and Cables. Friction. Distributed Forces: Moments of Inertia. Method of Virtual Work. Kinematics of Particles. Kinetics of Particles: Force, Mass, and Acceleration. Kinetics of Particles: Work and Energy. Kinetics of Particles: Impulse and Momentum. Kinematics of Rigid Bodies. Kinetics of Rigid Bodies: Force, Mass, and Acceleration. Kinetics of Rigid Bodies: Work and Energy. Kinetics of Rigid Bodies: Impulse and Momentum. Mechanical Vibrations.

BEER AND JOHNSTON—Vector Mechanics for Engineers

By FERDINAND P. BEER, Lehigh Univ.; and E. RUSSELL JOHNSTON, JR., Univ. of Connecticut.
Combined Volume
848 *pp.*, 7⅛ *x* 9¼ (1962).....$10.75*c*
Statics Volume
428 *pp.*, 8½ *x* 11 (1962).....$6.50*c*
Dynamics Volume
448 *pp.*, 8½ *x* 11 (1962).....$6.50*c*

Introduces the concepts of scalar and vector products and of derivatives of a vector, and uses these concepts throughout the presentation of the fundamental principles of mechanics. Two-dimensional problems are considered first; free body diagrams are used extensively to help visualize their solutions. Three-dimensional problems follow and vector algebra and vector calculus are used in their solutions. New material included: complete coverage of vector algebra; more fundamental presentation of dynamics of systems of particles; detailed discussion of conservative forces; numerous applications of engineering interest involving the kinematics and kinetics of rigid bodies in three dimensions; thorough discussion of gyroscopic motion.

CONTENTS—COMBINED VOLUME. Introduction. Statics of Particles. Rigid Bodies. Equivalent Systems of Forces. Equilibrium of Rigid Bodies. Distributed Forces: Centroids and Centers of Gravity. Analysis of Structures. Forces in Beams and Cables. Friction. Distributed Forces: Moments of Inertia. Method of Virtual Work. Kinematics of Particles. Kinetics of Particles: Force, Mass, and Acceleration. Kinetics of Particles: Work and Energy. Kinetics of Particles: Impulse and Momentum. Kinematics of Rigid Bodies. Plane Motion of Rigid Bodies: Forces and Accelerations. Plane Motion of Rigid Bodies: Energy and Momentum Methods. Kinetics of Rigid Bodies in Three Dimensions. Mechanical Vibrations.

BRENEMAN—Mechanics

By JOHN W. BRENEMAN, Pennsylvania State University. Third Edition.
262 *pp.*, 6 *x* 9, 440 *illus.* (1960).....$5.50*c*

A completely revised and expanded edition of a widely used introductory text on the fundamentals of mechanics—both statics and dynamics. The material is suited to training engineering technicians and apprentices who have a background of mathematics through trigonometry. The text conforms to engineering notation.

CONTENTS—Preface to the Third Edition. Foreword. Fundamental Principles of Mechanics. Equilibrium of Biaxial Forces. Simple Machines. Equilibrium and Internal Forces. Screws and Threads. Equilibrium of Triaxial Forces. Friction. Centroids. Moments of Inertia. Kinematics. Force, Mass and Acceleration. Work and Energy. Impulse and Momentum. Appendix. Answers to Problems. Index.

JENSEN—Applied Engineering Mechanics

By ALFRED JENSEN, Emeritus Professor of Engineering; assisted by HARRY H. CHENOWETH, University of Washington. Second Edition.

409 *pp.*, 6 *x* 9, 626 *illus.* (1960).....$6.50*c*

Revised and expanded, this second edition contains 325 completely new problems, gives new data for many of the older problems, adds alternate methods of solution for several types of problems. Answers are given for half of the 1100 problems. Well-selected review problems and questions summarize each chapter; there are more than 200 review questions in the second edition. The simplified approach requires only high-school mathematics. Strong emphasis is placed on understandable physical concepts and relationships. Maximum use is made of free-body diagrams.

CONTENTS—PART I. STATICS. Introduction. Basic Principles of Statics. Coplanar, Parallel Force Systems. Coplanar, Concurrent Force Systems. Coplanar, Nonconcurrent Force Systems. Noncoplanar, Parallel Force Systems. Noncoplanar, Concurrent Force Systems. Noncoplanar, Nonconcurrent Force Systems. Friction. Centroids and Centers of Gravity. Moments of Inertia of Areas. Miscellaneous Problems. PART II. DYNAMICS. Basic Principles of Dynamics. Kinematics of Rectilinear Motion. Kinetics of Rectilinear Motion. Curvilinear Motion. Kinematics of Rotation. Kinetics of Rotation. Plane Motion. Work, Energy, and Power. Impulse and Momentum. APPENDIX. INDEX. TABLES.

JENSEN—Statics and Strength of Materials

By ALFRED JENSEN, University of Washington.

552 *pp.*, 6 *x* 9, 684 *illus.* (1962).....$8.00*c*

Covers statics and strength of materials in one volume. It fills the needs of curriculums that do not require the study of dynamics. The material has been taken, unchanged, from the author's previously published books: *Statics*, Book I of this volume, was taken from Part I of APPLIED ENGINEERING MECHANICS; *Strength of Materials*, Book II, was taken in its entirety from APPLIED STRENGTH OF MATERIAL. Virtually all of the subject matter taught in the usual college courses in statics and strength of materials is included. However, formulas and mathematical relationships have been derived using only algebra and elementary trigonometry. The text material is based upon easily and commonly understood physical concepts and principles rather than the more abstract mathematical relationships that often are not so readily understood. The text includes formulas and design procedure for the design of timber columns as recommended by the National Lumber Manufacturers Association. More than 1100 problems and 300 review questions are included; the problems are graded according to difficulty.

CONTENTS—BOOK I. STATICS. 1. Introduction. 2. Basic Principles of Statics. 3. Coplanar, Parallel Force Systems. 4. Coplanar, Concurrent Force Systems. 5. Coplanar, Non-concurrent Force Systems. 6. Noncoplanar, Parallel Force Systems. 7. Non-coplanar, Concurrent Force Systems. 8. Non-coplanar, Nonconcurrent Force Systems. 9. Friction. 10. Miscellaneous Problems. Appendix. BOOK II. STRENGTH OF MATERIALS. 1. Stress and Deformation. 2. Engineering Materials and Their Properties. 3. Riveted and Welded Joints. Thin-Walled Pressure Vessels. 4. Torsion. 5. Centroids and Moment in Beams. 6. Shear and Moment in Beams. 7. Stresses in Beams. 8. Design of Beams. 9. Deflection of Beams. 10. Statically Indetermine Beams. 11. Combined Stresses. 12. Columns. Appendix.

LANGHAAR AND BORESI—Engineering Mechanics

By H. L. LANGHAAR and A. P. BORESI, University of Illinois.

Complete one volume edition.....$9.95*c*

Vol. I—Statics.

330 *pp.*, 6 *x* 9, 575 *illus.* (1959).....$5.50*c*

Vol. II—Dynamics.

374 *pp.*, 6 *x* 9, 440 *illus.* (1959).....$5.50*c*

Stresses the general ideas of mechanics, and their interpretations. Rather than always seeking the easiest way to derive results, the authors have selected the way that serves best to elucidate the basic principles. More than the usual emphasis is placed on the mechanics of non-rigid systems, so the student may acquire an adequate basis for his later studies of fluid mechanics and mechanics of deformable bodies. Problems, both solved and unsolved, will catch the student's interest and drill him in the processes of thinking that are essential for attacking significant engineering problems.

CONTENTS—Preface. Remarks for Instructors. Greek Alphabet. Concurrent Forces. Statics of Rigid Bodies. Engineering Applications and Methods. Distributed Forces. Friction. General Three-dimensional Theory of Statics. Energy Principles in Statics. Kinematics of a Particle. Dynamics of a Particle. Momentum Principles. Kinematics of a Rigid Body. Dynamics of a Rigid Body. Work and Energy. Vibrations. Kinematics and Dynamics in Three-dimensional Space. Appendix. Index.

POORMAN—Applied Mechanics

By A. P. POORMAN. Fifth Edition.

388 *pp.*, 5½ *x* 8, 448 *illus.* (1949)....$7.50*c*

This standard textbook on applied mechanics is intended for use in the undergraduate courses in mechanics in engineerinng schools. A knowledge of the principles of general physics and the calculus is assumed. Emphasizing the graphic method of solution, the book gives a clear, compact treatment of the basic principles of mechanics, together with a lucid explanation of the application of these principles to the solution of actual engineering problems.

CONTENTS—STATICS. Definitions and General Principles. Coplanar, Concurrent Forces. Coplanar, Parallel Forces. Coplanar, Noncurrent Forces. Concurrent Forces in Space. Parallel Forces in Space. Friction. Centroids and Centers of Gravity. Moments of Inertia of Areas. Kinematics of a Particle. Kinetics of Rigid Body in Rectilinear Translation. Moments of Inertia of Masses. Rotation of Rigid Bodies. Any Plane Motion of Rigid Bodies. Work, Energy, and Power. Impulse, Momentum, and Impact.

TIMOSHENKO AND YOUNG—Engineering Mechanics

By STEPHEN P. TIMOSHENKO, formerly Stanford University, and D. H. YOUNG, Stanford University. Fourth Edition.

529 *pp.*, 6 *x* 9, 935 *illus.* (1956).....$9.50*c*

Volume I—Statics.....$5.25*c*

Volume II—Dynamics.....$5.25*c*

This text will equip the student with a sound basic training and will acquaint him with as many general methods of attack as possible. Special attention is given to the selection and

treatment of illustrative examples. In this edition a large selection of problems is offered. CONTENTS—Preface. Concurrent Forces in a Plane. Parallel Forces in a Plane. General Case of Forces in a Plane. Force Systems in Space. Principle of Virtual Work. Rectilinear Translation. Curvilinear Translation. Rotation of a Rigid Body about a Fixed Axis. Plane Motion of a Rigid Body. Relative Motion. Moments of Inertia of Plane Figures. Moments of Inertia of Material Bodies. Forced Vibrations. Index.

YEH AND ABRAMS—Principles of Mechanics of Solids and Fluids

Vol. 1. Particle and Rigid-body Mechanics

By HSUAN YEH, University of Pennsylvania, JOEL I. ABRAMS, Yale University.

394 *pp.*, 6 *x* 9, 300 *illus.* (1960).....$9.50*c*

This book, the first of a two-volume set, integrates the mathematical subjects, otherwise abstract for many students, with the realities of a mechanics course. It demonstrates the universality of the mathematical expressions which portray the physical phenomena encountered in the several phases of mechanics. CONTENTS—Preface. Vector Algebra. Newton's Laws; Concurrent Force Systems; Equilibrium of a Particle. Vector Products. Statics of Systems of Particles and of Rigid-bodies. More Applications of Statics. Derivatives of Vectors; Kinematics of a Particle. Kinematics of a Rigid-body; Relative Motions. Dynamics of a Particle. Vibrating Systems. Dynamics of Systems of Particles. Moments and Products of Inertia. Dynamics of Rigid-bodies. Lagrange's Equation. Appendix A. Properties of Plane Geometric Shapes. Appendix B. Properties of Solid Homogeneous Bodies. Index.

Structural Theory and Stability

BLEICH—Buckling Strength of Metal Structures

By FRIEDRICH BLEICH. *Engg. Soc. Monog.*

498 *pp.*, 6 *x* 9, *illus.* (1952).....$13.50*i*

Covers the present standing of knowledge on the stability of metal structures for engineers, naval architects, and research workers concerned with the analysis and design of compression members. Practical applications in structural engineering are emphasized with particular attention to naval ship construction. CONTENTS—Buckling of Centrally or Eccentrically Loaded Columns. The Mathematical Treatment of Stability Problems and the Stability Criteria. Buckling of Centrally Loaded Columns by Torsion and Flexure. Lateral Buckling of Beams. Built-up Columns and Columns of Variable Stiffness. The Stability of Framework. The Effective Length of Compression Members in Trusses and the Stability of Rigid-frame Structures. Stability of Axially Compressed Bars Elastically Supported at Specific Points. Local Buckling of Plate Elements of Columns. Rectangular Plates without Longitudinal Stiffeners. Stability of Web Plates in Girders. Special Problems in the Design of Ship Plating.

GERARD—Introduction to Structural Stability Theory

By GEORGE GERARD, New York University. *Series in Struc. Engg. and Struc. Mech.*

192 *pp.*, 6 *x* 9, 85 *illus.* (1962).....$7.95*c*

The carefully selected contents introduce the student to the fundamental physical and mathematical aspects of stability theory. Part I gives a detailed presentation of compressive stability of columns and plates by treating small deflection theory, the significant results of large deflection theory, inelastic buckling theory, and finally, failure mechanisms. Part 2 treats the design aspects of flat elements subject to instability by use of optimum design analysis. Part 3 returns to the elastic and inelastic instability theory and failure of cylindrical shells under various loadings. Exceptionally modern, the text contains an abundance of special features, including: new development of tangent modulus theory for columns; discussion of failure mechanism for columns; inelastic buckling theory for plates; failure strength analysis of plates; and, analysis of instability of cylinders by use of Donnell's equation. Here also is a completely new approach to the science of design, covering: definition of the design problem; optimum design of multiweb beams; optimum design of wide column type structures; optimum design of stiffened wide columns; optimum design of stiffened plates; and comparative efficiencies of structural configurations and materials.

PESTEL AND LECKIE—Matrix Methods in Elastromechanics

By E. PESTEL, Technische Hochschule Hannover; and F. LECKIE, Cambridge University.

435 *pp.*, 6⅜ *x* 9¼, 639 *illus.* (1963) $19.50*r*

This senior-graduate text demonstrates the application of matrix methods to the dynamics and statics of large and complicated elastic systems which occur in mechanical, aeronautical and structural engineering practice. Matrix methods provide the most efficient and illuminating means of solving such systems and lend themselves particularly well to the use of the electronic computer. The book provides a complete coverage of the various matrix methods in elastomechanics which have been developed throughout the world.

TIMOSHENKO AND GERE—Theory of Elastic Stability

By STEPHEN P. TIMOSHENKO, Stanford University; and JAMES M. GERE, Stanford University. *Engg. Soc. Monog.* Second Edition.

541 *pp.*, 6 *x* 9, 329 *illus.* (1961).....$15.00*c*

An extensively rewritten and completely updated revision of the established text and reference work, first published in 1936, this book presents the fundamental theory of buckling of bars, plates, and shells. This new second edition brings the subject matter up to date and at the same time maintains the presentation which was characteristic of the earlier work. The most significant changes in the second edition are in the treatment of torsional buckling of columns and lateral buckling of beams. But the emphasis, as in the first edition, is on fundamental theory.

CONTENTS—Beam-Columns. Elastic Buckling of Bars and Frames. Inelastic Buckling of Bars. Experiments and Design Formulas. Torsional Buckling. Lateral Buckling of Beams. Buckling of Rings, Curved Bars, and Arches. Bending of Thin Plates. Buckling of Thin Plates. Bending of Thin Shells. Buckling of Shells.

TIMOSHENKO AND YOUNG—Theory of Structures

By STEPHEN P. TIMOSHENKO, formerly Stanford University, and D. H. Young, Stanford University.

488 *pp.*, 5¾ *x* 8¾, 477 *illus.* (1945)..$9.50*c*

By establishing a close relationship between the teaching of mechanics and structures, this book helps the student to understand the various practical methods of analysis of trusses and frames. With this point of view, the first chapter offers an introduction to the theory of structures in which the basic principles of statics are recapitulated.

CONTENTS—Elements of Plane Statics. Statically Determinate Plane Trusses. Influence Lines. Statically Determinate Space Structures. General Theories Relating to Elastic Systems. Deflection on Pin-jointed Trusses. Statically Indeterminate Pin-jointed Trusses. Beams and Frames. Arches.

Plasticity

HODGE—Plastic Analysis of Structures

By PHILIP G. HODGE, JR., Illinois Institute of Technology. *Series in Engg. Sc.*

364 *pp.*, 6 *x* 9, 140 *illus.* (1959)....$11.00*c*

Presents the techniques necessary in the analysis of structures beyond the elastic limit. The book emphasizes the conditions under which a plastic analysis is appropriate. Structures treated include beams and frames in bending, beams under combined stresses, plates, shells, and slabs with cutouts. Primary attention is given to the determination of stresses under static loads, but displacements, variable loadings, minimum weight design, and dynamic loadings are also treated.

CONTENTS—Preface. Notation. BENDING OF BEAMS AND FRAMES. Introduction. References. Problems. Limit analysis of beams and simple frames. Methods of limit analysis. Examples of framed structures. Displacements in plastic beams and frames. General loading. Limit design. Axial forces in frames and arches. STRUCTURES UNDER COMBINED STRESSES. General theory of combined stresses. Beams under combined stresses. Bending of plates. Limit analysis of shells. Problems in plane stress. Impact loading of structures. Index.

HOFFMAN AND SACHS—Introduction to the Theory of Plasticity

By OSCAR HOFFMAN, Case Institute of Technology, and GEORGE SACHS, Institute of Industrial Research, Syracuse University.

276 *pp.*, 6 *x* 9, *illus.* (1953).....$8.95*r*

Deals with that branch of mechanics which treats the behavior of ductile metals beyond the elastic range. Presented in an extremely readable and logically organized treatment, this book not only introduces the fundamentals of the science, but also gives accounts of all major engineering applications of the theory of plasticity. Problems of large plastic strain follow logically. The final section is devoted to important technological metal-forming processes.

CONTENTS—PART I. BASIC LAWS AND THEORIES. State of Stress. State of Strain. Elastic Stress-Strain Relations. Theories of Strength. Plastic Stress-Strain Relations. Experimental Data. PART II. PROBLEMS IN PLASTIC FLOW OF IDEALLY PLASTIC MATERIALS. Thick-walled Spherical Shells. Thick-walled Tubes, Rotating Cylinders and Disks. Torsion and Bending. Two-dimensional Plastic Flow Problems. PART III. PROBLEMS IN PLASTIC FLOW OF STRAIN HARDENING MATERIALS. Torsion and Bending. Buckling of Compressed Members. Instability in Tension. PART IV. THEORY OF METAL FORMING PROCESSES. Ideal Frictionless Drawing and Extruding. Drawing and Extruding of Cylindrical Bars. Drawing and Extruding in Condition of Plane Strain. Drawing and Extruding through Stationary Tools of Circular Contour in Condition of Plane Strain. Rolling of Sheet and Strip in Condition of Plane Strain. Non-symmetrical Processes of Plastic Flow through Circular-contoured Tools in Plane Strain Condition. Forging. Forming of Thin-walled Shells. Bending of Plates.

NÁDAI—Theory of Flow and Fracture of Solids

Volume I

By A. NÁDAI, Westinghouse Electric Corporation. *Engg. Soc. Monog.* Second Edition

567 *pp.*, 6 *x* 9, 498 *illus.* (1950).....$12.50*r*

Presents a mechanical treatment of the permanent deformation of solids; an introduction to the theories of a group of simple and composite plastic and viscous substances, with applications to states of stress in bending and torsion of bars and shafts encountered in cylinders; and a mathematical theory of the surfaces of slip in the problems of plane strain. The book gives the result of tests on limiting values of stresses for many materials.

CONTENTS—Introduction. The Solid and Fluid State of Matter, Elastic, Viscous, and Plastic Substances. Elastic and Permanent Deformation. Behavior of Matter under High Pressure. The Ordered and Unordered States of Matter. Crystalline Structures in Metals. Mechanism of Plastic Deformation in the Grain Structure. Theory of the Tensile Test. Stress. Mohr's Representation of Stress. Strain. Finite Homogeneous Strain without Rotation.

NÁDAI—Theory of Flow and Fracture of Solids

Volume II

By A. NÁDAI, Westinghouse Research Laboratories. *Engg. Soc. Monog.*

705 *pp.*, 6 *x* 9, 451 *illus.* (1962)....$25.00*r*

Presenting new perspectives in the mechanics of permanently deformed solid substances and their fracture phenomena, this book supplies basic information required for carrying out advanced work in machine design, materials research, and mechanics. Gives the wave equation of the earth's slab under a steadily moving glacial front, and discusses many elasticity, viscosity, and visco-elasticity applications in new, improved analytical form. Classical theory of elasticity, mechanical work of deforming a solid elastically and permanently up to strains of finite value, and states of plane strain, concentrated pressures, rotationally symmetric cases, and bending of plates are covered. Also presents the concise theory of an infinite visco-elastic slab resting or floating on substratum responding with buoyancy pressures, and describes the distribution of stress in a viscous substance compressed between rectangular or circular parallel plates. Steady parallel flow of a generally viscous substance through a cylindrical tube is considered, and the book discusses hyperbolic sine speed law, and thermal stress and strain. In addition, it considers cases of equilibria of idealized, loose, gravitating material based on Otto Mohr's classical theory, illustrated by two exact, new solutions the author developed for the ridge and valley in the gravitating loose substance. A full chapter is devoted to a selected group of problems in Geomechanics, theories of the evolution of prominent features in the outer, solid rock-shell of the Earth, exemplified by the transgression of the great Alpine Nappes (rock-sheets).

Elasticity

ERINGEN—Nonlinear Theory of Continuous Media

By A. CEMAL ERINGEN, Purdue University. *Series in Engg. Sc.*

470 *pp.*, 6 *x* 9, 87 *illus.* (1962).....$14.50*c*

This book is written for use in graduate courses and in research work to explain and cultivate the physical and mathematical foundations of continuum physics. It pursues the single unified theory advanced by Truesdell which can predict the mechanical behavior of all continuous media, fluid or solid, under any external influence such as force, heat, or electricity and magnetism. The first five chapters develop the concepts necessary for the formulation of basic field equations and the boundary conditions of continuous media. The rest of the book explores the mechanics and electrostatics of special media and provides an axiomatic foundation in the thorough exposition of eight basic principles. Applications to elasticity, fluid dynamics, hypoelasticity, plasticity, viscoelastic materials and electro-elasticity are given and although the theory is

nonlinear, transitions to approximate and linear theories are studied in detail.

CONTENTS—Preface. Introduction. Strain. Motion. Stress. Energy and Entropy. Constitutive Equations. Theory of Elasticity. Fluid Dynamics. Hypoelasticity. Elastic-Perfectly Plastic Bodies. Viscoelastic Materials. Electroelasticity. Appendix. Tensor Analysis. Bibliography. Index.

TIMOSHENKO—Collected Papers

By STEPHEN P. TIMOSHENKO, formerly Stanford University.

642 *pp.*, 6 *x* 9 (1954).....$15.00*rd**

Contains practically all Professor Timoshenko's published scientific papers plus a short biographical sketch by D. H. Young, student, colleague, co-author, and friend of the author. The scientific works include his writings in English, French, and German, as well as many early papers originally published in Russian and later translated or abstracted into one of the above languages.

* *Including Europe.*

TIMOSHENKO AND WOINOWSKY-KRIEGER—Theory of Plates and Shells

By S. TIMOSHENKO, Professor Emeritus Stanford University, and S. WOINOWSKY-KRIEGER, Laval University. *Engg. Soc. Monog.* Second Edition.

580 *pp.*, 6 *x* 9, 283 *illus.* (1959).....$15.00*c*

Since the publication of the first edition in 1940, the application of the theory of plates and shells in practice has widened considerably and new methods have been introduced into the theory. This second edition has been revised extensively, and the principal additions include: (1) an article on deflection of plates due to transverse shear, (2) an article on stress concentrations around a circular hole in a bent plate, (3) a chapter on bending of plates resting on an elastic foundation, (4) a chapter on bending of anisotropic plates, and (5) a chapter reviewing certain special and approximate methods used in plate analysis. Numerous references are made to the extensive literature published on the subject since the last edition.

CONTENTS—Preface. Notation. Introduction. Bending of Long Rectangular Plates to a Cylindrical Surface. Pure Bending of Plates. Symmetrical Bending of Circular Plates. Small Deflections of Laterally Loaded Plates. Simply Supported Rectangular Plates. Rectangular Plates with Various Edge Conditions. Continuous Rectangular Plates. Plates on Elastic Foundation. Plates of Various Shapes. Special and Approximate Methods in Theory of Plates. Bending of Anisotropic Plates. Bending of Plates under the Combined Action of Lateral Loads and Forces in the Middle Plane of the Plate. Large Deflections of Plates. Deformation of Shells without Bending. General Theory of Cylindrical Shells. Shells Having the Form of a Surface of Revolution and Loaded Symmetrically with Respect to Their Axis. Name Index. Subject Index.

TIMOSHENKO AND GOODIER—Theory of Elasticity

By STEPHEN P. TIMOSHENKO, formerly Stanford University, and J. N. GOODIER, Stanford University. *Engg. Soc. Monog.* Second Edition.

506 *pp.*, 6 *x* 9, *illus.* (1951).....$12.00*c*

Gives a full account of the principles, theory and results of the photoelastic method. There is a new chapter on thermal stress. An appendix on the method of finite differences and its applications, including the relaxation method, is also included. There are over ninety tested problems.

CONTENTS—Notation. Introduction. Plane Stress and Plane Strain. Two-dimensional Problems in Rectangular Coordinates. Two-dimensional Problems in Polar Coordinates. The Photoelastic Method. Strain Energy Methods. Two-dimensional Problems in Curvilinear Coordinates. Analysis of Stress and Strain in Three Dimensions. General Theorems. Elementary Problems of Elasticity in Three Dimensions. Torsion of Prismatical Bars. Bending of Prismatical Bars. Axially Symmetrical Stress Distribution in a Solid of Revolution. Thermal Stress. The Propagation of Waves in Elastic Solid Media. Appendix: The Application of Finite Difference Equations in Elasticity. Index.

WANG—Applied Elasticity

By CHI-TEH WANG.

357 *pp.*, 6 *x* 9, 161 *illus.* (1953).....$9.95*r*

Provides the student with the necessary fundamental knowledge of theory so that he will be able to formulate any problem occurring in the classical theory of elasticity, and acquaints the student with the most useful analytical and numerical methods so that after the problem is formulated the student will be able to solve it by one of these methods.

CONTENTS—Analysis of Stress. Analysis of Strain. Stress-Strain Relations and the General Equations of Elasticity. Plane Stress and Plane Strain Problems. Torsion of Various Shaped Bars. Finite Difference Approximations and the Relaxation Method. Energy Principles and Variational Methods. Solution by Means of Complex Variables. Bending and Compression of Bars —Elastic Stability. Numerical Methods in the Determination of Buckling Loads. Bending and Buckling of Thin Plates. Theory of Thin Shells and Curved Plates.

Advanced Dynamics

TIMOSHENKO AND YOUNG—Advanced Dynamics

By STEPHEN P. TIMOSHENKO, formerly Stanford University, and D. H. YOUNG, Stanford University.

400 *pp.*, 6 *x* 9, 281 *illus.* (1948).....$9.95*c*

Emphasizes the development of general methods of approach to various classes of dynamical problems, illustrating the application of these methods to some of the more important technical problems encountered in various fields of engineering.

CONTENTS—Preface. Notations. Dynamics of a Particle. Dynamics of a System of Particles. Dynamics of Systems with Constraints. Theory of Small Vibrations. Rotation of a Rigid Body about a Fixed Point. Index.

Materials of Engineering

DORN—Mechanical Behavior of Materials at Elevated Temperatures

Edited by JOHN E. DORN, University of California at Berkeley.

529 *pp.*, 6 *x* 9, 401 *illus.* (1961).....$14.50*c*

Highly authoritative, this text contains a series of coordinated chapters by nationally recognized authorities on various aspects of the scientific basis and engineering application of the latest information on high temperature behavior of materials. It is the major aim of this book to provide a systematic background for the scientist and the engineer in dislocation theory and its application to creep and related high temperature properties.

CONTENTS—"General Introduction" by *F. R. Shanley.* "Nature of Dislocations" by *John J. Gilman.* "Behavior of Dislocations" by *John C. Fisher.* "Thermodynamic Principles" by *Gunther Schoeck.* "Theories of Creep" by *Gunther Schoeck.* "Mechanism of Fracture" by *Jack Washburn.* "Theories of Fatigue" by *Earl R. Parker.* "Evaluation of Creep and Stress Rupture" by *Hans Conrad.* "Role of Grain Boundaries in Creep" by *Hans Conrad.* "Alloying for Creep Resistance" by *Ray W. Guard.* "Mechanical Properties of Ceramic Materials" by *Joseph A. Pask.* "Deformation Phenomena" by *J. D. Lubahn.* "Thermal Stresses and Thermal Shock" by *S. Stanford Manson.* "Variable Temperature and Stresses" by *S. Stanford Manson.* "Damping and Resonance Fatigue" by *B. J. Lazan.*

PARKER—Materials for Missiles and Spacecraft

Edited by EARL R. PARKER. Univ. of California at Berkeley. *Univ. of Cal. Engg. & Sc. Exten. Series.*

442 *pp.*, 6 *x* 9, 204 *illus.* (1963).....$15.00*r*

This graduate level book provides a coordinated analysis of materials problems in the field and missile and spacecraft design. It not only develops a broad perspective view of the technological and economical factors that control the rocket and missile industry, but presents in depth the details of specific problems. Many excellent photographs of rocket and missile components, as well as precise technical data about the materials used therein, help to illustrate and clarify the material for the reader.

CONTENTS—General Criteria for the Design and Manufacture of Missiles and Spacecraft, by *John C. McDonald.* Materials at Cryogenic Temperatures, by *James F. Watson.* Extreme High Temperature Materials, by *Allen V. Levy.* Materials for Thermal Protection, by *Wolfgang H. Steurer.* Compatibility of Materials, by *E. J. Zeilberger.* Choice of Materials and Fabrication Techniques for Pressure Vessels, by *A. Hurlich.* Fracture of Pressure Vessels, by *George R. Irwin.* Temperature Control of Spacecraft, by *R. P. Lipkis.* Evaporation Effects on Materials in Space, by *L. D. Jaffe and John B. Rittenhouse.* Lubrication, by *Francis J. Clauss.* Nuclear Materials and Problems, by *John E. Hove.* Materials for Direct Conversion—Theoretical Considerations, by *Clarence Zener.* Materials for Direct Conversion, by *D. E. Thomas.* Economic Aspects of Materials and Their Applications in Missiles and Spacecraft, by *Morris A. Steinberg.*

FRANKEL—Principles of the Properties of Materials

By JACOB PORTER FRANKEL, Northwestern University. *Series in Engg. Sc.*

221 *pp.*, 6 *x* 9, 56 *illus.* (1957).....$6.95*c*

Here, the author presents the subject in such a way that the student is prepared to solve not only the difficult problems of today's advancing technology but also those of the future. Thus, the emphasis is on principles and properties rather than specific materials. In order to enable the student to master the fundamentals of the study, heretofore available only in scattered form in advanced texts and published papers, only the most important properties are considered. However, the underlying principles of physics of matter are presented in a way that should make it easy for the student to go on to more advanced work and actual practice.

CONTENTS—Preface. List of Figures. Introduction. PHYSICO-CHEMICAL FOUNDATIONS. Atoms. Equilibrium. Structure. Cohesion. Metals. PROPERTIES. Conductivity. Heating. Diffusivity. Electrochemistry. Elasticity. Plasticity. Fracture. Viscosity. General Considerations. Looking Ahead. Index.

LEIGHOU—Chemistry of Engineering Materials

By ROBERT B. LEIGHOU. Fourth Edition.

684 *pp.*, 5½ *x* 8, 101 *illus.* (1942)....$9.95*c*

Seeks to provide information on the chemical properties of engineering materials so that the reader can select and use them intelligently. Details of synthetic rubbers, or elastomers; synthetic resins as constituents of organic protective coating; heat insulators, high-octane motor fuels; and high-pressure lubricants.

CONTENTS—Water for Steam Generation. Fuels. Refractory Materials for Furnace Linings. The Non-ferrous Metals. The Non-ferrous Alloys. Iron and Steel. Corrosion of Iron and Steel. Foundry Sands. Building Stones. Lime and Gypsum Products. Portland and Other Cements. Concrete. Clay and Clay Products. Paints. Varnishes. Stains, and Fillers. Lubricants. Glue. Rubber. Electrical Insulating Materials. Primary Electric Cells. Secondary Cells. Hydrometry.

MOORE AND MOORE—Textbook of the Materials of Engineering

By HERBERT F. MOORE, formerly University of Illinois, and MARK B. MOORE, Rutgers University. Eighth Edition.

372 *pp.*, 6 *x* 9, 142 *illus.* (1953).....$8.50*c*

A concise presentation of the properties of various materials, used for machine and structural parts, which affect the strength, stiffness, ductility, and resistance to corrosion or wear.

CONTENTS—Introductory. Cohesion, Stress, and Strain. *By Jasper O. Draffin.* The Elastic Strength of Materials. Failure of Materials by Flow or Creep. The Failure of Materials by Fracture. Tables of Physical Properties of Typical Structural Metals. Structural Damage; Working Stress: Factor of Safety. Failure of Metallic Materials by Corrosion and Wear. The Production of the Common Structural Metals: Cast Metals. Crystalline Structure and Heat Treatment of Metals: Alloying. Strengthening Metal Parts by Surface Treatment. Welding. Powdered Metals. Wood. Building Stone and Ceramic Materials. Cementing Materials: Gypsum, Lime, Portland Cement, and Other Hydraulic Cements. Concrete. *By Harrison F. Gonnerman.* Plastics. *By William N. Findley.* Rubber, Leather, Rope. Testing and Inspection: Experimental Stress Analysis. Specifications for Materials. Stress, Strain, Atomic and Crystalline Distortion, and Structural Damage to Machine Parts and Structural Members. Index.

WHITE—Engineering Materials

By ALFRED H. WHITE, formerly University of Michigan. Second Edition.

686 *pp.*, 6 *x* 9, 253 *illus.* (1948).....$8.50*c*

Written from an engineering rather than a chemical standpoint. The various subjects are presented from the modern theoretical viewpoint, so that the engineering student may understand the behavior of the material he uses.

CONTENTS—Fundamental Properties of Solids. Iron and Its Alloys with Carbon. Effect of Heat-treatment on Iron-Carbon Alloys. Manufacture of Iron and Iron-Carbon Alloys from the Ore. Early Methods of Producing Wrought Iron and Steel from Pig Iron. Manufacture of Steel by the Bessemer, Open-hearth, and Electric-furnace Processes. Properties of Plain Carbon Steel as Influenced by Mill Operations. Alloy Steels with Low-alloy Content. Properties of High-alloy Steels Including Tool Steels, Stainless Steels, and Alloys for High-temperature Service. Processes for Shaping and Fabricating Metals. Castings of Steel, Malleable Iron, and Gray Iron. Copper, Nickel, Zinc, and Their Alloys. The Soft Metals—Lead, Tin, and Their Alloys. Bearing Metals. Corrosion of Metals and Protection by Inorganic Coatings. Rocks and Their Decomposition Products. Clay Products. Fused Silicates. Vitrified Clay Products. Glass, Slags, and Refractories. Lime, Gypsum, and Magnesium Oxychloride Products. The Silicate Cements: Pozzuolanic Cements, Hydraulic Limes, Natural Cements, Portland Cement. Fuels and Combustion. Water and Its Industrial Utilization. Soap and Other Detergents. Wood and Wood Products. Organic Protective Coatings, Old Type. Synthetic Materials for Plastics, Adhesives, and Protective Coatings. Plastics, Laminates, and Synthetic Coatings. Index.

FINNIE AND HELLER—Creep of Engineering Materials

By IAIN FINNIE and WILLIAM R. HELLER, both of Shell Development Company, Emeryville, California.

327 *pp.*, 6 *x* 9, 128 *illus.* (1959)....$12.75*i*

Provides a comprehensive survey of the creep of materials and discusses design for creep conditions. The book covers creep testing; measurement of creep variables such as temperature, strain, and load; mechanisms involved in the creep of metals and non-metals; stress analysis under creep conditions; sources of creep data; factors in choosing a design stress; and creep problems which occur in specific applications. Included are typical creep curves and examples of engineering calculations.

CONTENTS—Preface. Introduction. Creep Variables and Creep Measurements. Creep of Nonmetallic Materials. The Mechanisms of Creep in Metals. Creep Behavior of Specific Metals. Stress Analysis—Problems With

One Strain Variable. Stress Analysis—Steady-State Multiaxial Stress. Stress Analysis for Nonsteady-State Multiaxial Creep. Sources, Presentation, and Extrapolation of Data. Choice of a Design Stress. Specific Applications. Index.

Materials Testing

DAVIS, TROXELL, AND WISKOCIL—The Testing and Inspection of Engineering Materials

By HARMER E. DAVIS, GEORGE EARL TROXELL, and CLEMENT T. WISKOCIL, University of California, Berkeley. *Series in Civ. Engg.* Second Edition.

431 *pp.*, 6 *x* 9, *illus.* (1955).....$7.75*c*

Develops the concepts and principles of materials testing, discusses the many types of tests in current use, describes the equipment used for these tests, and covers the effect of the many variables upon the test results obtained. One of the principal aims is to stress the nature of physical measurements and tests and to indicate the limitations of data derived from them.

CONTENTS—PRINCIPLES OF TESTING AND INSPECTION. The Nature of the Problem. General Features of Mechanical Testing. Measurement of Load, Length, and Deformation—Common Testing Apparatus. Static Tension and Compression Tests. Static Shear and Bending Tests. Hardness Tests. Impact Tests. Fatigue and Creep Tests of Metals. Nondestructive Tests. Analysis and Presentation of Data. Principles of Inspection. INSTRUCTIONS FOR LABORATORY WORK. Laboratory Duties. Reports. Problems. Appendixes. Index.

Introductory Strength of Materials

ARGES AND PALMER—Mechanics of Materials

By K. PETE ARGES and AUBREY E. PALMER, Duke University.

448 *pp.*, 6 *x* 9, 487 *illus.* (1962).....$8.50*c*

Written at the intermediate level, this orderly and concise text derives and explains the basic principles of the subject. To augment understanding of these principles, numerous examples, listed in groups of two or three, are examined in great detail and arranged according to progressive difficulty. An unusually complete coverage is given to such topics as properties of materials, plastic analysis, and columns. Separate treatment is given to three different methods applicable to the "elastic curves of beams" whether these are statically determinate or statically indeterminate.

CONTENTS—Preface. List of Symbols. Stresses and Strains. Properties of Materials. Axially Loaded Members. Shear and Moment in Beams. Stresses in Beams. Design of Beams. Torsional Stresses and Deformations. Riveted and Welded Connections. Stresses from Combined Loading. Principal Stresses. Elastic Curve; Double Integration. Elastic Curve; Area Moment. Elastic Curve; Superposition. Continuous Beams. Columns. Dynamic Loading; Elastic Energy. Plastic Analysis. Appendix. Answers to Selected Problems. Index.

BRENEMAN—Strength of Materials

By JOHN W. BRENEMAN, Pennsylvania State University. Prepared under the direction of the Division of Engineering Extension, Pennsylvania State University. Second Edition.

145 *pp.*, 6 *x* 9, *illus.* (1952).....$3.50*c*

This is a brief text for the beginning student or apprentice with a limited mathematical background. It presents a simplified treatment of simple stresses, shear, riveted joints, stresses in thin-walled cylinders, torsion, beams, columns, and materials.

CONTENTS—Simple Stresses. Shear. Riveted Joints. Stresses in Thin-walled Cylinders—Welds. Torsion. Beams—Shear and Moment Diagrams. Stresses in Beams. Beam Deflections. Combined Axial and Bending Stresses—Eccentric Loads. Columns. Materials.

CRANDALL AND DAHL—An Introduction to the Mechanics of Solids

By ROBERT R. ARCHER, NATHAN H. COOK, STEPHEN H. CRANDALL, NORMAN C. DAHL, FRANK A. MCCLINTOCK, ERNEST RABINOWICZ, GEORGE S. REICHENBACH. Edited by STEPHEN H. CRANDALL and NORMAN C. DAHL, Massachusetts Institute of Technology. *Series in Engg. Sc.*

436 *pp.*, 6 *x* 9, 497 *illus.* (1959).....$9.50*c*

This book is concerned with the mechanics of rigid and deformable solids in equilibrium, with primary emphasis on deformable solids. The author's purpose is twofold: to treat the subject as an *engineering science* and to give the student a unified introduction to the mechanics of solids. To achieve these aims they have indicated three fundamental physical considerations which govern the mechanics of solids in equilibrium and have related all discussion and theoretical development to them. No attempt is made to provide a compendium of useful results; rather, selected applications have been examined with great care. There are 55 detailed examples and 330 problems, with answers for approximately one-third of the problems.

CONTENTS—Preface. Fundamental Principles of Mechanics. Introduction to Mechanics of Deformable Bodies. Forces and Moments Transmitted by Slender Members. Stress and Strain. Stress-Strain-Temperature Relations. Torsion. Stresses Due to Bending. Deflections Due to Bending. Stability of Equilibrium: Buckling. Index.

JENSEN—Applied Strength of Materials

By ALFRED JENSEN, University of Washington.

343 *pp.*, 6 *x* 9, 246 *illus.* (1957).....$5.75*c*

Designed to acquaint the student with the strength and other properties of various engineering materials, and to teach him how to design various types of structural members and connections commonly found in machines and buildings. This presentation features the development of design formulas without the use of the calculus. The simplified mathematical approach is similar to that used in *Applied Engineering Mechanics*, to which this book is a companion volume.

CONTENTS—Stress and Deformation. Engineering Materials and Their Properties. Riveted and Welded Joints. Thin-walled Pressure Vessels. Torsion. Centroids and Moments of Inertia of Areas. Shear and Moment in Beams. Stresses in Beams. Design of Beams. Deflection of Beams Statically Indeterminate Beams. Combined Stresses. Columns. Appendixes.

LISARELLI—Essential Strength of Materials

By FREDERICK R. LISARELLI, Purdue University.

261 *pp.*, 5⅜ *x* 8, 186 *illus.* (1957)....$4.75*c*

A one-semester text intended primarily for technical institute and college courses where calculus is not prerequisite. The theory has been developed with the use of algebra and trigonometry alone; formulas which could not be derived simply without the use of calculus have been assumed. A chapter on centroids and moments of inertia precedes the study of beams; this is designed for students who have not had a course in mechanics. The section on welded joints has been developed in the light of latest American Welding Society recommendations. The logical sequence, carefully selected illustrative examples, and problems make the text highly teachable and easy to understand.

CONTENTS—Simple Stresses. Riveted and Welded Joints. Beams. Centroids and Moments of Inertia. Stresses in Beams. Deflections in Beams. Statically Indeterminate Beams. Composite Beams. Columns. Torsion. Appendix: Tables from the American Institute of Steel Construction. Answers to Problems. Index.

POORMAN—Strength of Materials

By ALFRED P. POORMAN. Fourth Edition.

339 *pp.*, 5¼ *x* 8¼, 200 *illus.* (1945)..$6.95*c*

The treatment is well balanced, systematic, and constantly keeps in mind the student's viewpoint and capacity. The explanations of points usually considered difficult are greatly simplified and clarified, without sacrifice of accuracy.

CONTENTS—Stresses and Strains in Tension and Compression. Stresses and Strains in Shear. Riveted Joints and Welded Joints. Torsion of Shafts. Shear and Moment in Beams. Stresses in Beams. Deflection of Beams. Fixed and Continuous Beams. Beams of Two Materials. Beams of Constant Strength. Resilience. Combined Stresses. Columns. Deflection of Beams by Area Moment Method. Curved Beams and Hooks.

SHANLEY—Strength of Materials

By F. R. SHANLEY, University of California, Los Angeles.

783 *pp.*, 6 *x* 9, 522 *illus.* (1957).....$9.50*c*

Written to be used as a first text in college courses in engineering and science, this text does not emphasize any particular field of structures, such as aeronautical or civil, but instead contains material which forms the basis for *all* types of structural analysis and design. Examples and problems include practical cases from fields of civil, aeronautical, and mechanical engineering. The order of presentation is based on principles of *general semantics* and starts with the measurable quantities, moves on to the stress-strain level and finally to the dimensionless level.

CONTENTS—Preface. List of Symbols. FORCES AND DEFLECTIONS. STRESS AND STRAIN. Forces and Deflections. Energy. Analysis of Forces and Moments. Distributed Forces (Force Fields). Curved Forces and Force Fields. Analysis of Stress (Three-dimensional Force Fields). Strain Analysis (Axial and Plane Strain). Experimental Stress-Strain Relationships. Elastic and Thermal Strains. Plastic Strain (Axial Loading). Plastic Strain (Combined Loading). Dimensionless Stress-Strain Relationships. ANALYSIS OF STRUCTURAL ELEMENTS. Analysis of Axially Loaded Members. Shear and Bending-moment Diagrams. Analysis of Pure Bending (Elastic). Inelastic, Composite and Curved Beams. Analysis of Transverse-force Transmission (Shear). Shear Deflections. Bending Deflections. Statically Indeterminate Beams. Analysis of Pure Torsion (Elastic). Torsion (Continued). Analysis of Combined-loading Conditions. STRENGTH OF STRUCTURAL ELEMENTS. Buckling of Columns. Local and Lateral Buckling. Strength under Combined Loading (Interaction Method). Stress Concentration and Fatigue. Strength of Joints and Fittings. Appendix A—Mechanical Properties of Materials. Appendix B—Geometrical Properties of Plane Areas. References. Index.

Stress Analysis

DURELLI, PHILLIPS, AND TSAO—Introduction to the Theoretical and Experimental Analysis of Stress and Strain

By A. J. DURELLI, Catholic University of America, Washington, E. A. PHILLIPS, Union Tank Car Company, and C. H. TSAO, Aerospace Corporation, Los Angeles. *Series in Mech. Engg.*

498 *pp.*, 6 *x* 9, 269 *illus.* (1958)....$14.75*i*

Containing the most complete treatment ever published of brittle coating properties and brittle coating method of stress analysis, this introduction to the field of stress analysis will prepare students for future courses in such subjects as elasticity and photoelasticity. Technical details of methods are underemphasized, because the authors believe a student can learn them quickly in the lab if he is well acquainted with the fundamentals of the method. However, examples of the applications of basic concepts to the solutions of problems of industrial interest are given.

CONTENTS—Preface. List of Symbols. Introduction. MATHEMATICAL METHOD OF ANALYSIS. Theory of Stress. Theory of Strain. Geometric Representations of the State of Stress and Strain at a Point. Theory of Elasticity. Application of Three-dimensional Problems. Two-dimensional Problems in the Theory of Elasticity. Geometric Representations of the Two-dimensional State of Stress and Associated State of Strain at a Point. Properties of Special Families of Curves. Application to Two-dimensional Problems. INTRODUCTION TO THE USE OF EXPERIMENTAL-STRESS-ANALYSIS METHODS. Fundamental Concepts in Strain Measurements. Statistical Methods and Their Application to Experimental Stress Analysis. Dimensional Analysis. GRID METHODS. Grid Methods. BRITTLE-COATING METHODS. General Background of Brittle Coatings. Stresses and Strains in Brittle Coatings. Properties of Stresscoat. Application of the Brittle-coating Method. MECHANICAL STRAIN GAGES. Mechanical Strain Gages. Index.

PERRY AND LISSNER—The Strain Gage Primer

By CHARLES C. PERRY and H. R. LISSNER, Wayne State University. Second Edition.

332 *pp.*, 6 *x* 9, 224 *illus.* (1962)....$11.50*i*

The second edition of this practical handbook has been thoroughly up-dated to include such important new topics as foil and high temperature strain gages, cements, instruments, stress-coat, and diaphragm-type gages. Provides extensive treatments of strain measurement; bonded wire strain gages; basic strain gage techniques; the Wheatstone Bridge; instrumentation; stresses and strains; and strain rosettes and stress gages. Also presents detailed coverage of moisture-proofing of strain gages; long-time strain gage installations; slip rings and switch contacts; transducers; special problems; and brittle coatings.

ROARK—Formulas for Stress and Strain

By RAYMOND J. ROARK, University of Wisconsin. Third Edition.

381 *pp.*, 6 *x* 9, 370 *illus.* (1954)....$8.95*r*

Here is a compact and readily usable summary of important formulas, facts, and principles pertaining to strength of materials. It is intended primarily as a working handbook for engineers concerned with machine and structural design, but is also useful as an auxiliary textbook for courses in stress analysis and elasticity.

CONTENTS—Part I. Definitions and Symbols. Definitions. Symbols and Units. Part II. Facts; Principles; Methods. The Behavior of Bodies under Stress. Principles and Analytical Methods. Experimental Methods. Properties of a Plane Area. Part III. Formulas and Examples. Tension, Compression, Shear, and Combined Stress. Beams; Flexure of Straight and Curved Bars. Torsion. Flat Plates. Columns and Other Compression Members. Pressure Vessels: Pipes. Bodies under Direct Bearing and Shear Stress. Elastic Stability. Dynamic and Temperature Stresses. Tables. Index.

Advanced Strength of Materials

DEN HARTOG—Advanced Strength of Materials

By J. P. DEN HARTOG, Massachusetts Institute of Technology.

386 *pp.*, 6 *x* 9, 461 *illus.* (1952).....$8.95*c*

This authoritative work covers strength of materials and theory of elasticity starting from the level attained after the usual first one-term course in strength of materials. The book gives proofs and derivations for every proposition, whereas in many other texts statements are often given without proof.

CONTENTS—TORSION. ROTATING DISKS. MEMBRANE STRESSES IN SHELLS. BENDING OF FLAT PLATES. BEAMS

ON ELASTIC FOUNDATION. TWO-DIMENSIONAL THEORY OF ELASTICITY. THE ENERGY METHOD. BUCKLING. MISCELLANEOUS TOPICS.

MURPHY—Advanced Mechanics of Materials

By GLENN MURPHY, Iowa State College.

307 *pp.*, 6 *x* 9, 129 *illus.* (1946).....$8.00*c*

Emphasis is placed upon the tools—statics, geometry, and properties of the materials—available for investigating new problems, and upon the way these tools are applied.

CONTENTS—Relationship of Materials to Design. Stresses and Strains at a Point. Stress-Strain Relationships. Theories of Failure. Axial Loading. Cylinders, Spheres, and Disks under Radially Symmetrical Loads. Torsion. Flexure. Cross Shear. Introduction to Photoelastic Analysis. Compressive Loads and Buckling.

TIMOSHENKO—History of Strength of Materials

By STEPHEN P. TIMOSHENKO, formerly Stanford University.

445 *pp.*, 6 *x* 9, 252 *illus.* (1953)....$12.00*r*

Comprises a history of the development of the sciences of "strength of materials" and "theory of structures" from their beginnings up to the present time. Brief biographies of scientists and engineers are also included.

CONTENTS—Introduction. The Strength of Materials in the Seventeenth Century. Elastic Curves. Strength of Materials in the Eighteenth Century. Strength of Materials between 1800 and 1833. Strength of Materials in the Period 1867–1900. Theory of Structures in the Period 1867–1900. Theory of Plasticity between 1867 and 1900. Progress in Strength of Materials during the Twentieth Century. Theory of Elasticity during the Period 1900–1950. Theory of Structures during the Period 1900–1950. Index.

Fluid Mechanics

CAMBEL—Plasma Physics and Magnetofluidmechanics

By ALI BULENT CAMBEL, Northwestern University. *Series in Missile & Space Tech.*

304 *pp.*, 6 *x* 9, 89 *illus.* (1963).....$11.50*r*

The author indicates how the vast science of cosmical electrodynamics may be utilized in developing various technological devices. The book seeks to coordinate the many aspects of magnetofluidmechanics in a systematic manner, and to include all material of interest to the engineering student, particularly in the aerospace technologies, whose primary mission is to design systems. The viewpoint followed is primarily that of a thermodynamicist-fluidmechanician rather than that of a hydrodynamacist.

DAUGHERTY AND INGERSOLL—Fluid Mechanics

With Engineering Applications

By R. L. DAUGHERTY and A. C. INGERSOLL, California Institute of Technology. Fifth Edition.

472 *pp.*, 6 *x* 9, 341 *illus.* (1954)....$8.50*c*

Treats the fundamentals of fluid mechanics with practical applications to hydraulic engineering and hydraulic machinery. Applications to fluids other than water are emphasized and compressible as well as incompressible fluids are considered in this text which stresses fundamental concepts and methods.

CONTENTS—Properties of Fluids. Pressure. Hydrostatic Force on Areas. Kinematics of Fluid Flow. Dynamics of Fluid Flow. Similitude of Fluid Flow. Flow Measurements. Friction Losses in Pipes. Flow through Pipes. Uniform Flow in Open Channels. Nonuniform Flow in Open Channels. Unsteady Flow. Forces on Immersed Bodies. Dynamic Force and Momentum. Affinity Laws and Factors for Turbomachines. Impulse Turbines. Reaction Turbines. Centrifugal and Axial-flow Pumps. Fluid Couplings and Torque Converters. Basic Hydrodynamics. Appendix I: Dimensions and Units. Appendix II: Velocity of Pressure Wave. Appendix III: Cast-iron-pipe Dimensions. Appendix IV: Steel- and Wrought-iron-pipe Dimensions. Answers.

DODGE AND THOMPSON—Fluid Mechanics

By RUSSELL A. DODGE, University of Michigan, and MILTON J. THOMPSON, University of Texas.

495 *pp.*, 6 *x* 9, 267 *illus.* (1937).....$8.50*c*

A treatment of the principles of hydrostatics, hydraulics, hydromechanics, and aerodynamics. By combining these related subjects under the single heading of "Fluid Mechanics," the value of each is enhanced and much material formerly considered of graduate caliber is made available to undergraduate students.

CONTENTS—Properties of Fluids. Statics of Fluids. Flotation. Accelerated Liquids in Relative Equilibrium. Dynamics of Fluids. Impulse and Momentum in Fluids. Dynamic Lift and Propulsion. The Flow of Viscous Fluids. Flow of Fluids in Pipes. Flow with a Free Surface. Flow through Orifices and Tubes. The Resistance of Immersed and Floating Bodies. Dynamics of Compressible Fluids. Thermodynamics of Compressible Viscous Fluids. Dynamic Similarity. Special Problems in Fluid Mechanics.

HINZE—Turbulence

An Introduction to Its Mechanism and Theory

By J. O. HINZE, Technological University, Delft, Netherlands. *Series in Mech. Engg.*

586 *pp.*, 6 *x* 9, 155 *illus.* (1959)....$17.00*r*

This book familiarizes the reader with the fundamentals of turbulent flows. By beginning with first principles and reducing the use of mathematics to a minimum, the author makes the subject matter understandable to the reader who is not already an expert in fluid flow. The book gives the reader a theoretical basis for the study of specialized literature on turbulence and for theoretical investigations of those chemical engineering problems, such as mixing and heat and mass transfer, in which turbulence plays an essential part. Special attention is paid to the mechanism of turbulence in relation to flow resistance and heat and mass transfer.

CONTENTS—Preface. General Introduction and Concepts. Principles of Methods and Techniques in the Measurement of Turbulent Flows. Isotropic Turbulence. Nonisotropic Turbulence. Transport Processes in Turbulent Flows. Nonisotropic Free Turbulence. Nonisotropic "Wall" Turbulence. Appendix. Index.

KAUFMANN—Fluid Mechanics

By WALTHER KAUFMANN, Technical University. Munich. Translated by E. G. CHILTON, Stanford University. Second Edition.

432 *pp.*, 6 *x* 9, 248 *illus.* (1963).....$12.75*c*

This book, a translation of the highly successful German work, surveys the entire field of fundamental fluid mechanics. It is characterized by its breadth of scope, simplicity of style, and clarity and logic of presentation. It leads in a logical and sequential manner from fluid statics, through one, two, and three-dimensional incompressible flow to the dynamics of gas flow. Mathematical methods are not neglected, but are given only to clarify methods and points of application. Graduate engineers and physicists who are not primarily in the field of fluid mechanics but need a reference to the field will find this book invaluable.

CONTENTS—PART I: PROPERTIES OF LIQUIDS AND GASES. Ideal and Actual Fluids. Properties of Gases. Fluid Pressure. PART II: EQUILIBRIUM (HYDRO- OR AEROSTATIC). Euler's Conditions of Equilibrium. Pressure in a Fluid Under the Action of Gravity. Constant Velocity Rotation of a Liquid Around a Fixed Axis. Fluid Under Pressure—Neglecting Gravity. Force on Container Wall—Fluids at Rest. Buoyancy of a Fluid at Rest. Stability of a Floating Body—Metacenter. Surface Tension. Atmospheric Equilibrium. (Aero-

statics). PART III: FLUIDS IN MOTION (HYDRO- AND AERODYNAMICS). Introduction: Concept of a Flowing Fluid. One Dimensional Flow (Flow Filament Theory). Frictionless (Inviscid) Flow. Some Applications of the Momentum Laws. Energy Losses. The Influence of Viscosity. Generalized Bernoulli Equation for Non-Ideal Fluids. Newton's Law of Fluid Friction. Laminary Flow, Poiseuille's Law. Turbulent Flow. Reynolds Number. Reynolds Law of Similitude. Turbulent Flow in a Circular Pipe. Prandtl's Mixing Length and von Karman's Similarity Hypotheses. Velocity Distribution in Turbulent Plane Flow. Turbulent Flow in Pipes. Pipe Flow Problems. Losses in Closed Pipe Systems—Special Cases. Pipe Branches. Unsteady Flow in Closed Pipes. Flow in Open Channels. General Theory of Two- and Three-Dimensional Flow. Basic Concepts and Equations in Ideal Flow. Introduction. Equation of Continuity. Euler's Equation of Motion. Rotational and Irrotational Motion. Circulation. Kelvin's Law. Stoke's Integral Theorem. Generalized Bernoulli Equation. Plane Potential Flow. Conformal Mapping. Some Applications of Conformal Mapping. Flow with Circulation. Potential Flow with Rotational Symmetry. Hydrodynamic Lift. Surface Waves. Vortex Motion. Motion of Viscous Fluids. Introduction. Navier-Stokes' Equations of Motion. Flow with Very Small Reynolds Number (Creep Flow). Boundary Layer Theory. The Turbulent Boundary Layer. On the Beginning of Turbulence. Drag and Drag Coefficient. Boundary Layer Control. Free Turbulence. Rotation Disks and Cylinders. The Airfoil. Airfoil Cascades. Propellers. Fundamentals of Compressible Fluid Flow (Gas Dynamics). Introduction. The Fundamental Equations of Gas Dynamics. Propagation of Small Disturbances. Velocity of Sound. The Mach Angle. One-Dimensional Analysis (Filament Theory). Flow with Subsonic Velocity. Wings of Finite Span at Subsonic Speeds. Supersonic Flow. Index.

ROBINSON—Basic Fluid Mechanics

By LISTER ROBINSON, Eastern Ontario Institute of Technology, Ottawa, Canada.

200 *pp.*, 6 *x* 9, 118 *illus.* (1963).....$5.00*c*

Presents the basic principles of fluid mechanics in a manner easily comprehensible to the average technician with only the necessary minimum mathematical knowledge. The mathematical knowledge required consists of an elementary course in calculus. Technological in approach, the text is written in a clear, straightforward style. The continuity from chapter to chapter is regulated so that as each new concept is presented, it is integrated into the theory to produce the next concept. Problems are designed so that basic facts complement the theory. The text contains sections on: Fluid statics; Incompressible flow; Compressible flow; Fluid momentum; Dimensional analysis; Viscous flow in pipes and channels: Aerodynamics.

SHAMES—Mechanics of Fluids

By IRVING SHAMES, Pratt Institute.

576 *pp.*, 6 *x* 9, 407 *illus.*.....$8.95*c*

Utilizing a science-oriented approach to the general study of fluid mechanics, the author has written a theory textbook supported with sample problems, examples, and discussions to illustrate the practical applications in the field. This book contains sophistication of development and continuity necessary for the effective use of the kind of mechanics now taught in engineering schools. The first half of the book discusses the foundations of fluid mechanics, analyzes the kinematics of fluid flow and formulates the basic laws both in integral and differential form. The second half studies the differential forms of basic equations and presents certain simplified flow models.

CONTENTS—PART I: BASIC PRINCIPLES OF FLUID MECHANICS: Fundamental Notions. Stress at a Point. Fluid Statics. Foundations of Flow Analysis. Basic Laws for Systems and Control Volumes: Conservation of Mass; Linear-momentum Equations; Moment-of-momentum Equations; First Law of Thermodynamics; Bernoulli's Equation. General Considerations of Irrotational Flow. Dimensional Analysis and Similitude. PART II: ANALYSIS OF IMPORTANT TYPES OF FLOW: Two-dimensional, Steady Irrotational Incompressible Flow: The Stream Function and Important Relations; Basic Analysis of Two-dimensional Incompressible Irrotational Flows; Simple Flows; Superposition of Simple Flows. Axially Symmetric Incompressible Irrotational Flow. Fundamental Notions; Simple Flows; Superposition of Simple Flows. Viscous Flow: General Comparison of Laminar and Turbulent Flows; Laminar Flow; Turbulent Flow—Experimental Considerations; Turbulent Flow—Hypotheses. Boundary-layer Theory. Introductory Considerations for Compressible Flow: Thermodynamic Considerations; Compressibility Effects. One-dimensional Compressible Flow: Isentropic Flow with Simple Area Change; The Normal Shock; Operation of Nozzles and Diffusers; Flow through a Constant-area Duct with Friction; Steady Flow through a Constant-area Duct with Heat Transfer. Introduction to Multidimensional Compressible Flow: General Equation for Velocity Potential; Linearized Theory; Approximate Solutions of Linearized Equations. Flow in Open Channels. Final Closure. Appendix A: Proofs and Discussions. Appendix B: Curves and Tables.

STREETER—Fluid Mechanics

By VICTOR L. STREETER, University of Michigan. Third Edition.

568 *pp.*, 6 *x* 9, 407 *illus.* (1962).....$8.95*c*

This third edition has been extensively revised to provide a more equal balance between theory and applications to broad uses of fluid mechanics. The material is divided into two sections: fundamentals and principles. An analytical approach to fluid mechanics is utilized; partials and vectors are used where suitable. The language of thermodynamics is employed and the subject matter is coordinated with thermodynamics when perfect gases are discussed. The major change is the discussion of compressible flow. The book now uses definitions and concepts of present treatments in thermodynamics. Includes over 1100 problems.

CONTENTS—PART ONE: FUNDAMENTALS OF FLUID MECHANICS: Fluid Properties and Definitions. Fluid Statics. Fluid-flow Concepts and Basic Equations. Dimensional Analysis and Dynamic Similitude. Viscous Effects—Fluid Resistance. Compressible Flow. Ideal-Fluid Flow. PART TWO: APPLICATIONS OF FLUID MECHANICS: Turbomachinery. Fluid Measurement. Closed-Conduit Flow—Steady Flow in Conduits. Flow in Open Channels. Appendixes: Force Systems, Moments, and Centroids. Partial Derivatives and Total Differentials. Physical Properties of Fluids. Notation. Answers to Even-numbered Problems. Index.

STREETER—Mecancia de los Fluidos

510 *pp.*, 6 *x* 9½, 139 *illus.* (1963)...$6.25*r*

STREETER—Handbook of Fluid Dynamics

Prepared by a Staff of Specialists, VICTOR L. STREETER, Editor-in-Chief, University of Michigan.

1228 *pp.*, 6 *x* 9, 870 *illus.* (1961)...$24.00*hb*

Leading experts in the field give a practical engineering coverage of fluid flow principles, data, methods, and theory. Among the subjects covered are basic equations of fluid flow, laminar flow, flow with chemical reaction, compressible flow, cavitation, turbulence, motion of immersed and floating bodies, flow measurement, two-phase flow, sedimentation, turbomachinery, pipelines, and more. This broad, balanced treatment enables you to apply a wide variety of methods for solving flow problems. Recent advances are described in such areas as fluid power transmission and control, jet and rocket propulsion, stratified flow, magnetohydrodynamics, and computer calculations for problems in fluid dynamics.

CONTENTS—Fluid Properties. Basic Equations of Fluid Flow. One-dimensional Flow. Ideal Fluid Flow. Laminar Flow. Transport Phenomena in Multicomponent Systems. Flow of Non-Newtonian Fluids. Compressible Flow. Boundary Layer Theory. Turbulence. Separation and Stall. Cavitation. Motion of Immersed and Floating Bodies. Flow Measurement. Dimensional Analysis—Similitude—Model Studies. Flow Through Porous Media. Two-Phase Flow. Sedimentation. Tur-

bomachinery. Fluid Transients in Engineering Systems. Conversion, Transmission, and Control of Fluid Power. Lubrication Mechanics. Thermal Jet and Rocket Jet Propulsion. Open Channel Flow. The Digital Computer for Fluid Flow Calculations. Stratified Flow. Magnetohydrodynamics.

BAKHMETEFF—Hydraulics of Open Channels

By BORIS A. BAKHMETEFF. *Engg. Soc. Monog.* 330 *pp.*, 6 *x* 9, *with tables and plates* (1932) $8.95*r*

A thorough and comprehensive treatment of the more advanced features relating to flow of water in open channels, such as backwater and other surface curves, the hydraulic jump.

CONTENTS—Definitions. Part One: Theory of Gradually Varied Flow. Uniform Flow. Equation of Uniform Flow. General Features of Flow. Recapitulation: The Characteristics of Flow. Classification of Flow. Properties and Types of Surface Curves. Integration of the Varied Flow Equation. Computation Procedures. Channels with Horizontal Bottom. Part Two: Practical Applications. Delivery of a Canal. Entrance Conditions. Delivery of a Canal with a Horizontal Bottom. Designing Canals. Canals with Steep Bottom Slope. Backwater Curves in Natural Watercourses. Part Three: The Hydraulic Jump. Theory of the Jump. The Jump in a Rectangular Channel. Location of the Jump. The Jump below a Regulating Sluice. The Jump at the Foot of a Weir.

HUNSAKER AND RIGHTMIRE—Engineering Applications of Fluid Mechanics

By JEROME C. HUNSAKER and B. G. RIGHTMIRE, Massachusetts Institute of Technology. 494 *pp.*, 6 *x* 9, 75 *illus.* (1947).....$9.50*c*

Develops the underlying equations of basic fluid mechanics from first principles through consideration of flow in a fixed region of space. The same technique is followed in the discussion of mass, momentum, and energy. Practical applications of theory to airplane performance, turbine and pump characteristics, fluid couplings, and other hydraulic machinery are described and illustrated.

CONTENTS—Introduction. Statics. Kinematics and Continuity. Dynamics of an Ideal Fluid. Energy Relations of Steady Flow. Momentum Relations for Steady Flow. Dimensional Analysis and Similitude. Incompressible Flow in Closed Conduits. Compressibility Phenomena Drag. Wing Theory. Hydrodynamic Lubrication. Boundary Lubrication. Hydraulic Turbines. Pumps. Fans and Compressors. Propellers and Jets. Fluid Couplings and Torque Convertors. Hydraulic Transmissions and Controls. Appendix. Problems.

CAMBEL AND JENNINGS—Gas Dynamics

By A. B. CAMBEL and B. H. JENNINGS, Northwestern University. *Series in Mech. Engg.*

415 *pp.*, 6 *x* 9, 185 *illus.* (1958)....$12.50*c*

A text for advanced undergraduates and beginning graduate students in mechanical engineering, this book presents the theory and concepts underlying compressible fluid flow, wave phenomena and combustion. The subject matter is applicable and useful in many fields where gases are in motion, either with or without combustion; it is particularly pertinent to the internal flow problems of jet engines, rocket motors and gas turbines.

CONTENTS—Preface. Basic Concepts of Gas Dynamics and Gas Properties. Fundamental Equations of Steady Flow. Isentropic Flow. Diabatic Flow. Flow with Friction. Wave Phenomena. Variable-area Flow. Thermochemistry. Introduction to Flames and Combination. Multi-dimensional Flow and the Method of Characteristics. Dimensional Analysis and Similitude. Experimental Techniques and Measurements. Aerothermochemistry. Appendix. Name Index. Subject Index.

STREETER—Fluid Dynamics

By V. L. STREETER, University of Michigan. *Pub. in Aeron Sc.*

263 *pp.*, 6 *x* 9, 139 *illus.* (1948).....$6.95*c*

Covers the classical theory of fluid flow; the ideal fluid theory for two- and three-dimensional flow; the theory for viscous flow.

CONTENTS—Fluid Flow Concepts. Fundamentals of Frictionless Fluid Flow. Theorems and Basic Flow Definitions. Three-dimensional Flow Examples. Application of Complex Variables to Two-dimensional Fluid Flow. Two-dimensional Flow Examples. Blasius Theorem—Flow around Cylinders and Airfoils. Schwarz-Christoffel Theorem—Free Streamlines. Vortex Motion. Equations for Viscous Flow. Examples of Viscous Flow. The Boundary Layer. Index.

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Aerodynamics

DORRANCE—Viscous Hypersonic Flow
Theory of Reacting and Hypersonic Boundary Layers
By WILLIAM H. DORRANCE, Aerospace Corporation.
552 *pp.*, 6 *x* 9, 66 *illus.* (1962).....$12.50*c*
Provides a description of theories for treating the compressible laminar and turbulent boundary layer flows of reacting gas mixtures. The theories are developed from fundamentals; all related chemical, thermodynamic and physical concepts are described in detail, resulting in a self-contained book. The book contains useful equations for calculating heat transfer between reacting gas boundary layers and reacting, melting, sublimating and otherwise decomposing surfaces for those who are concerned with engineering applications.
CONTENTS—Preface. AN INTRODUCTION TO HYPERSONIC HEAT TRANSFER: General Considerations. The Hypersonic Heating Problem. Effects upon Hypersonic Vehicle Design. The Scope of This Book. THE BOUNDARY LAYER EQUATIONS: Introduction. Gas Dynamic Equations: Molecular Theory of Gas Flows, Equations of Change, Solving Boltzmann's Equation, The Diffusion Velocity. Boundary Layer Equations: Prandtl's Boundary Layer Concept, The Boundary Layer Equations for a Reacting Gas. Reduction to Ordinary Differential Equations. Some Particular Integrals. The Dimensionless Transport Parameters. Conclusions. SURFACE MATERIAL—BOUNDARY LAYER INTERACTIONS: Introduction. Some Thermochemistry. Various Contributions to Heat Transfer. The Melting Surface Layer. Mass Transfer Effects. Heat Conduction in the Solid State. Conclusions. THE DISSOCIATED LAMINAR BOUNDARY LAYER: Introduction. The Boundary Layer Equations. Equations for an Ideal Dissociating Gas. Effects of Dissociation; the Reaction Conductivity. Frozen Boundary Layer Approximation. Stagnation Point Solutions. Effects of Surface Recombination. Effects of Pressure Gradient and Body Shape. Conclusion. MASS TRANSFER AND CHEMICAL REACTION EFFECTS ON THE LAMINAR BOUNDARY LAYER: Introduction. Applicability of the Boundary Layer Equations. Frozen Boundary Layer Approximation. Boundary Layer Heat Transfer: Frozen Boundary Layer Equations, Effect of Mass Transfer. Heat Transfer to a Solid Surface. Diffusion Controlled Surface Reactions. An Example Calculation: The Chemical Enthalpy Potential, The Species Mass Fractions, The Equilibrium Constants, The Results of Calculations. Kinetically Controlled Surface Reactions. Kinetics of Gas Phase Reactions. The Reference Temperature: Relation Between C_{AVE} and C(T'), Significance of Reference Temperature. The Recovery Factor, r. Conclusions. LEADING EDGE BLUNTNESS, SHOCKWAVE INTERACTION AND VORTICITY EFFECTS: Introduction. Leading Edge Shockwave—Boundary Layer Interaction: Strong Interaction Theory Equations, Strong Interaction Theory Solutions, Example Calculation, Effects of Mass Transfer on Strong Interaction Theory. Effects of Leading Edge Bluntness. Vorticity Effects on the Boundary Layer. Conclusions. THE DISSOCIATED TURBULENT BOUNDARY LAYER: Introduction. The Turbulent Boundary Layer Equations. Dissociated Turbulent Boundary Layer Equations. Relation Between C_H and C_f. Turbulent Skin Friction Coefficient. Conclusions. MASS TRANSFER AND CHEMICAL REACTIONS IN THE TURBULENT BOUNDARY LAYER: Introduction. Mass Transfer Effects on $2C_H/C_f$ and r: Effect on $2C_H/C_f$ and r, The Velocity Ratio u_L/u_e. Mass Transfer Effects on C_f: Effect of Mass Transfer on C_f, The Velocity Ratio u_L/u_e Comparison with Experiment. Effects of Chemical Reactions with Mass Transfer: Equations for $2C_{He}/C_f$ and r. Equation for $2C_{Hd}/C_f$, Boundary Layer Heat Transfer. Net Heat Transfer into a Surface: Equation for Heat Transfer, Effects of Mass Transfer with Unlike Gases on C_f. An Example Calculation: The Species Mass Fractions, The Mass Transfer Parameter B_e, The Chemical Enthalpy Potential, h_e, The Mass Transfer Parameter B_d, The Ratio $C_{He}/(C_{He})_o$, Results of All Calculations. Effects of Body Shape and Pressure Gradient. Conclusions. THERMODYNAMIC PROPERTIES OF DILUTE GAS MIXTURES: Introduction. Boltzmann Statistics. The Multiplier B. The Partition Functions. The Thermodynamic Functions. Partition Functions from Quantum Theory. Using Spectroscopic Data. The Equilibrium Constant. An Example Calculation—High Temperature Air. Conclusions. TRANSPORT PROPERTIES OF DILUTE GAS MIXTURES: Introduction Transport Theory Assumptions. The Transport Coefficients: Coefficient of Viscosity, Binary Diffusion Coefficient, Thermal Conductivity for Monatomic Gases, Thermal Conductivity for Polyatomic Gases, Thermal Conductivity for Polyatomic Gas Mixtures. The Collision Integrals. The Physics of Intermolecular Forces. Various Intermolecular Potentials: Rigid Sphere Potential, Point Centers of Repulsion, Lennard-Jones Potential. Transport Properties of Dissociated Air: Ideal Dissociating Gas, Calculations for Dissociated Air. Transport Properties for Gas Mixtures. Combination Rules for σ_{12}. Conclusions. Appendix: Symbols and Nomenclature. Name Index. Subject Index.

SCHLICHTING—Boundary Layer Theory
By HERMANN SCHLICHTING, University of Braunschweig, Germany. Translated by J. KESTIN, Brown University. *Series in Mech. Engg.* Fourth Edition.
647 *pp.*, 6 *x* 9 (1960).....$17.50*c*
A connected and logical exposition of that branch of Fluid Mechanics which deals with flows in boundary layers. Starting from first principles (i.e., the Navier-Stokes equations), it develops the subject to the frontiers of present-day knowledge. A clear physical picture of the subject is presented, together with an exposition of the mathematical techniques involved. This edition offers many improvements and modifications, particularly in the treatment of transition non-steady boundary layers, thermal boundary layers, and suction. Recent advances are included.

VON KARMAN—Aerodynamics
By THEODORE VON KARMAN.
203 *pp.*, 5⅝ *x* 8 (Cornell Univ. Press, 1954; McG-H Paperbacks Ed., 1963).....$2.45*pa*
This is both a history and analysis of the study of flight. It reads easily and much like an enthralling scientific detective story; step by step, Dr. von Karman unfolds the riddles posed by dynamic flight. Many popular questions are answered for readers; for example, why an aileron fails to work at some speeds and why their normal action is reversed at others. Also discussed are the questions of sustaining life amid the dangers of interstellar radiation, weightlessness, and meteors. Mostly, however, the book deals with what has been accomplished in the phenomenal development of modern aerodynamics.

DWINNELL—Principles of Aerodynamics
By JAMES H. DWINNELL, Boeing Airplane Company, Seattle.
391 *pp.*, 6 *x* 9, 285 *illus.* (1949).....$8.50*c*
Introduction to the theoretical and practical aspects of aerodynamics. The book contains much experimental data, which are to be used in comparison with theory rather than as a handbook. It may be described as the unfolding of aerodynamic principles and the verification of these principles by test data. Particularly detailed treatment is given to Reynold's number effect on various bodies; the theory of airfoil properties; subsonic, transonic, and supersonic characteristics of aerodynamic bodies; characteristics of the jet-propelled plane; and the characteristics of hinged surfaces.
CONTENTS—Abbreviations. English-letter Nomenclature. Greek-letter Nomenclature. Introduction. Fluid Dynamics. Aeronautical Nomenclature. Experimental Facilities. Airfoil Characteristics. Aspect-ratio and Planform Influences. Viscosity Phenomena. Compressibility Phenomena. The Optimum Airfoil. Auxiliary Lift Devices. Parasite-drag and Power Considerations. Aircraft Engines. Propellers. Airplane Performance. Stability and Control. Bibliography. Appendix A: Tables. Appendix B: Charts. Index.

POPE—Basic Wing and Airfoil Theory

By ALAN POPE, Georgia Institute of Technology, Sandia Corporation, New Mexico.

294 *pp.*, 6 *x* 9, 187 *illus.* (1951).....$8.95*c*

Written at a level between the very elementary and the very advanced, this text requires no mathematics beyond that usually found in undergraduate engineering courses. Every step necessary for a clear understanding—except the most elementary arithmetic and calculus steps—is provided. Each theory is followed by a clear statement of its limitations and how it agrees with practice. The numerous examples and problems are an outstanding feature.

CONTENTS—Vector Analysis. Complex Variable and Fourier Series. The Stream Function. Other Flow Functions. The Joukowski Transformation. Airfoil Construction and Pressure Distribution. This Airfoil Theory. Thick-airfoil Theories. The Finite Wing. The Monoplane Wing. The Field about the Wing. Spanwise Load Distribution for Arbitrary Wings. Miscellaneous Applications of Perfect Fluid Theory.

ROSSER, NEWTON, AND GROSS—Mathematical Theory of Rocket Flight

By J. BARKLEY ROSSER, Cornell University, ROBERT R. NEWTON, Bell Telephone Laboratories, Inc., and GEORGE L. GROSS, Grumman Aircraft Engineering Corporation.

276 *pp.*, 6 *x* 9, *illus.* (1947).....$8.95*r*

The material contained in this book was formerly in the form of a report to the Office of Scientific Research and Development. After the removal of secrecy restrictions on the report, a considerable amount of expository material was added. While calculus is required for a complete understanding of the report, the authors have included enough explanatory material so that the lay reader may follow the continuity even without comprehending the mathematics involved.

CONTENTS—The Equations of Motion of a Rocket Motion after Burning. Motion during Burning. Boundary Conditions. Properties of the Rocket Functions. Appendix: A Simplified Theory of Flow through a Nozzle. Derivation of Principle V. Minor Factors Affecting the Flight of a Rocket. Functions for Use with an Unstable Rocket. Functions for Use with Jet Damping. Bibliographical References.

Structures

PEERY—Aircraft Structures

By DAVID J. PEERY, General Atomics.

566 *pp.*, 6 *x* 9, 561 *illus.* (1950).....$9.50*c*

Emphasizing structural principles, this text presents a fundamental treatment of the subject. The theory is applicable for almost any design requirements and almost any materials. All topics in structural analysis are developed from simple principles of mechanics. Outstanding are the many illustrations, figures, and problems, together with examples showing solution of problems.

CONTENTS—Equilibrium of Forces. Space Structures. Inertia Forces and Load Factors. Moments of Inertia, Mohr's Circle. Shear and Bending-moment Diagrams. Shear and Bending Stresses in Symmetrical Beams. Beams with Unsymmetrical Cross Sections. Analysis of Typical Members of Semimonocoque Structures. Spanwise Air-load Distribution. External Loads on the Airplane. Mechanical Properties of Aircraft Materials. Joints and Fittings. Design of Members in Tension, Bending, or Torsion. Design of Compression Members. Design of Webs in Shear. Deflections of Structures. Statically Indeterminate Structures. Special Methods of Analysis.

KUHN—Stresses in Aircraft and Shell Structures

By PAUL KUHN, Structures Research Division, National Advisory Committee for Aeronautics. *Pub. in Aeron. Sc.*

435 *pp.*, 6 *x* 9, 256 *illus.* (1956)....$17.50*i*

Presents methods for the analysis of stiffened-shell structures to a better accuracy than that afforded by the old, established engineering methods. The problems discussed include stresses due to bending of box beams, stresses due to torsion with restrained warping, and stresses around cutouts. One chapter is devoted to diagonal-tension webs. The second part of the book presents a large number of comparisons between tests and calculations.

CONTENTS—Symbols and Abbreviations. Sign Conventions. METHODS OF ANALYSIS. Preliminary Topics. Elementary Theories. Diagonal Tension. Shear Lag. Two-spar Structures. Four-flange Shells under Torsion (with Restrained Warping). Multistringer Single-cell Shells under Torsion (with Restrained Warping). Cutouts in Plane Panels and Box Beams. Cutouts in Circular Cylinders. EXPERIMENTAL EVIDENCE. Tests and Their Evaluation. Verification of Elementary Theories. Diagonal-tension Tests. Shear-lag Tests. Torsion-box Tests. Cutout Tests. Appendix. Index.

Communications

KRASSNER AND MICHAELS—Introduction to Space Communications Systems

By GEORGE N. KRASSNER, Loral Electronics Corporation, and JACKSON V. MICHAELS, National Aeronautics and Space Administration. *Series in Missile & Space Tech.*

In Press

A comprehensive, authoritative text and reference on space communications, oriented to the systems engineering concept. It treats transmission and reception of primary control data, telemetry data, tracking data and command; control data, communication with orbiting spacecraft, space probes, and manned space stations. Typical examples, syntheses of typical systems, significant equations, and sample calculations are furnished. The authors have included line drawings, block diagrams, and tabular summaries. An extensive bibliography is provided.

Design

ANDERSON—Aircraft Layout and Detail Design

By NEWTON H. ANDERSON, University of Southern California. Second Edition.

437 *pp.*, 5¼ *x* 8¼, 403 *illus.* (1946)..$8.50*c*

Contains a wealth of authoritative material prepared for students in aircraft schools and colleges, and for detailers in the engineering departments of aircraft plants. Covers the three main subjects with which every good aircraft layout man must be familiar: Descriptive Geometry, Detail Design, and Fitting Analysis.

CONTENTS—Requirements for a Good Layout. Airfoils. Descriptive Geometry for Aircraft Layout. Connections. Forgings. eral Design Considerations. Machined Fittings. Miscellaneous Design Castings. Data. Fundamental Principles of Fitting Analysis. Strength Calculations for Riveted and Bolted Joints. Bending. Torsion. Shear and Its Application to Thin Web Beams. Columns. Appendix.

SHAPIRO—Principles of Helicopter Engineering

By JACOB S. SHAPIRO, Consulting Engineer, London, England. *Pub. in Aeron. Sc.*

433 *pp.*, 6 *x* 9, *illus.* (1955).....$14.75*i*

This is a guide to helicopter design, production, inspection, or maintenance. The author's approach is a blend of theoretical analysis and practical engineering, and he incorporates the view of several categories of technicians in the helicopter industry.

CONTENTS—ROTATING WINGS IN STEADY FLIGHT. The Actuator Disc. The Real Rotor. Rotor Performance. Aerodynamic Problems. Rotor Analysis. PERFORMANCE OF HELICOPTERS. Performance of Rotocraft Elements. Performance of Power Units. Application of Performance Analysis. DYNAMICS OF THE ROTOR. Fundamentals of Blade Dynamics. Motion of Rigid Blades. Loads and Deformations of Flexible Blades. Rotor Forces and Derivatives. Rotor Systems. Rotor Vibrations. MECHANICS OF HELICOPTER FLIGHT. Principles of Helicopter Control. Stability of Free Single-Rotor Helicopter with Hinged Rotor. Control of Single-Rotor Helicopter with Hinged Rotor. Control and Stability of Single-Rotor Helicopters with Modified Rotor Systems. Control and Stability of Multi-Rotor Helicopters. HELICOPTER PROJECTS. Design Requirements. Quality Criteria. Classification of Configurations. ROTOCRAFT COMPONENTS AND ASSEMBLIES. Lifting Rotor Blade. Articulation and Hub of Lifting Rotor. Power System. Handling System. Structure.

Guided Missiles and Space Technology

ABRAHAM—Structural Design of Missiles and Spacecraft

By LEWIS H. ABRAHAM, Douglas Aircraft Company.

335 *pp.*, 6 *x* 9, 155 *illus.* (1962)....$12.50*i*

Discusses in detail and in logical fashion the problems and techniques unique in the design of missiles and spacecraft as well as of all high-performance aircraft. Integrating essential factors affecting design, this practical guidebook treats loads, space environment, materials, thermodynamics, aerodynamics, reliability, and other design factors in detail. Emphasis is given to thin wall pressure theory as applied to high strength missile and spacecraft structures. Among other things, it discusses methods of trajectory calculation, problems associated with "thermal flight" and methods of ameliorating its ravages, methods for computing the temperature rise of structures in flight, behavior of metals and other materials at elevated temperatures, methods of combating and predicting fatigue, and methods for insuring early reliability.

CONTENTS—Flight Loads. The Environment. Gas Properties. Aerodynamic and Solar Heating. Heat Transfer Through the Structure. Thermal Stresses. Materials and Material Behaviors. Pressure-Containing Structure. Pressure-Stabilized Structure. Aeroelastic Effects and Dynamic Loads. Structural Fatigue. Heat-Protection Systems. Reliability.

ADAMS—Space Flight

Satellites, Space Ships, Space Stations, and Space Travel Explained

By CARSBIE C. ADAMS. With the collaboration of FREDERICK I. ORDWAY, III, KEYWARD E. CANNEY, JR. and RONALD C. WAKEFORD.

350 *pp.*, 5 *x* 8, *illus.* (1958).....$10.00*t*

A fascinating introduction to our new space age by the president of the National Research and Development Corporation. Discusses such up-to-the-minute subjects as rockets, satellites and space stations, Sputnik and Bio-Sputnik, the spaceship, architecture of the universe, human factors in space flying, communications in space, the trip to the Moon and to Mars, and interstellar flight. Chapters include "Background of Rocket Development," "Space Ship Design," and "Human Factors in Space Flight."

ADAMS, VON BRAUN, AND ORDWAY—Careers in Astronautics and Rocketry

Training and Opportunities in the Space and Missile Fields

By CARSBIE C. ADAMS, President, National Research and Development Corporation, WERNHER VON BRAUN, Director, George C. Marshall Space Flight Center, NASA, in collaboration with FREDERICK I. ORDWAY, III, Chief, Space Information Branch, George C. Marshall, Space Flight Center, NASA.

248 *pp.*, 6 *x* 9, 89 *illus.* (1962).....$6.95*t*

Written by three of the nation's foremost authorities on the subject, this revealing book brings you up to date on personal qualifications, educational requirements, training programs, and specific job opportunities in space flight and space exploration. Beginning with a survey of astronautics and rocketry, and an examination of the contributions of the basic sciences and engineering disciplines, this volume goes on to explore the educational and scientific projects by which individuals are trained for astronautical careers in industries, universities and research institutes, government, and the armed forces. Includes treatments of such important areas as the chemistry of propellants, geosciences, and mathematics and computing, together with discussions of communications and tracking, propulsion, vehicle design, and support equipment. Offers a concise summary of leading corporations involved with astronautical developments, and examines such pertinent factors as projects and programs, research and design achievements, and personnel requirements. In addition it provides detailed information on careers and opportunities in a number of research institutes and universities such as MIT, Johns Hopkins, University of Chicago, and California Institute of Technology.

CONTENTS—The Evolution of Astronautics and Rocketry. Astronautics and the Natural Sciences. Astronautics and the Engineering Disciplines. Training for Astronautical Careers. Careers in Industry. Careers in Research Institutes and Universities. Careers in Civil Service and Military Astronautics. Astronautics and the Future.

BATTIN—Astronautical Guidance

By RICHARD H. BATTIN, MIT Instrumentation Laboratory. *Electron Sc. Series.*

In Press

For a graduate level one-semester course in Astronautical Guidance and research scientists in the area. Provides a background for understanding problems and requirements of self-contained navigation and guidance systems carried aboard space vehicles. Much of the material is original; this is the first textbook devoted entirely to the subject.

CONTENTS—Introduction to Celestial Mechanics. Position and Velocity in Two-Body Orbits. Two-Body Orbit Determination. Two-Body Orbital Transfer. Trajectories and Missions for Space Flight. Perturbation Methods. Celestial Navigation. Interplanetary Guidance and Navigation Using Celestial Fixes. Recursive Navigation Theory. Guidance Theory for a Continuous Low-Thrust Lunar Reconnaissance Vehicle. Appendix.

BERKNER AND ODISHAW—Science in Space

Edited by L. V. BERKNER, Graduate Research Center of Dallas, Texas; and HUGH ODISHAW, Space Science Board, National Academy of Sciences.

468 *pp.*, 6 *x* 9, 91 *illus.* (1961).....$9.00*t*

*McG-H Paperbacks Ed.**

This "report in progress" by the Space Science Board of the National Academy of Sciences provides a thorough review of the areas and opportunities for important research using space vehicles, and suggests what appear to be major areas of emphasis for the national space effort. Directed to scientists and engineers in all fields, the book presents the contributions of top specialists on the place of science in the space effort. Among the vital topics covered

are: examining the earth with space tools—nature of gravitation—the moon and planets—meteorology—physics of fields—geomagnetically trapped corpuscular radiation—the sun—galactic and extragalactic astronomy—the biological sciences and space research—exobiology: experimental approaches to life beyond the earth—and interplanetary gas and magnetic fields.

CONTENTS—A General Review. Dimensions and Problems. Results of Experiments in Space. GRAVITY. The Nature of Gravitation. THE EARTH. Knowledge of the Earth from Space. Some Aspects of Geodesy. Meteorology. Rocket Research and the Upper Atmosphere. Satellites and the Upper Atmosphere. THE MOON AND THE PLANETS. The Moon. The Planets. FIELDS AND PARTICLES IN SPACE. Physics of Fields and Energetic Particles in Space: Introduction. The Interplanetary Gas and Magnetic Fields. The Acceleration and Propagation of Particles within the Solar System. Solar Modulation of Cosmic Radiation and Other Energetic Particles Reaching the Earth. The Geomagnetically-Trapped Corpuscular Radiation. On Particles and Fields Pertinent to Auroral Theory. THE STARS. The Sun. Galactic and Extragalactic. Astronomy. THE LIFE SCIENCES. The Biological Sciences and Space Research. Exobiology: Experimental Approaches to Life Beyond the Earth.

** Available only through your local bookstore.*

BROWN AND WEISER—Ground Support Systems for Missiles and Space Vehicles

Edited by KENNETH BROWN, University of California, Los Angeles; and PETER B. WEISER, Space Technology Laboratories, Inc., and University of California, Los Angeles. *Univ. of Cal. Engg. Ext. Series.*
490 *pp.*, 6 *x* 9, 209 *illus.* (1961).....$15.00*c*

Presents a complete description of the systems required to support either a missile or a space vehicle. The text approaches the system as a whole unit, assuming that the missile is merely one small portion, and that each of the subsystems involved is merely an integral part of the overall weapon system. All subsystems are considered, including data subsystems, facilities, vulnerability protection, mobile systems, propellancy handling, reliability, maintenance, and logistics—plus the existing standard equipment. An entire section is directed toward the management concepts for ground support systems. The text also covers certain new safety and survival factors and some new developments in weapons effects (nuclear effects).

CONTENTS—I. OPERATIONAL DESIGN *Peter Weiser* A. System Design Concept B. Operational Concepts. II. MANAGEMENT OF SUPPORT SYSTEMS. *A. Anchordoguy* A. Definition and Purpose of Support System B. General Management Concepts C. Management Tools D. Development Requirements E. Weapon System Specification F. GSE Plan G. System Design Integration H. Component and Subsystem Testing I. Weapon System Testing J. Operational Deployment. III. LAUNCH CONTROL SYSTEMS *Robert Sagen* A. Functions Controlled and Monitored B. Logical Design C. Hardware Required. IV. DESIGN AND OPERATION OF GROUND GUIDANCE SYSTEMS *Don Lewis* A. History of Systems B. Radio Inertial Guidance Systems (RIGS) C. All-inertial Guidance System (AIGS) D. Combined RIGS-AIGS System E. Space Vehicles. V. FAST REACTION PROPELLANT LOADING SYSTEMS *Robert Hinckley* A. Introduction to Development of System B. Pumps vs. Pressurized Transfer C. Selection of Components—Valves, Controls, Filters, Materials, etc. D. Methods of Storage E. Design of Interconnecting Piping F. Selection of Control Systems G. Operation of Presently Installed Systems—(unclassified). VI. FACILITIES —GENERAL *Bernard Gales* A. Introduction by Definitions and Analogies B. Sitting Criteria C. Development of Design Criteria D. Management of Design and Construction. VII. USE OF AUTOMATION IN CHECKOUT EQUIPMENT *Ken Nelson.* A. Why Automation? B. Basic Approach C. Monitor Functions D. Input Functions E. Incorporation of Self-test and Self-verifying Features F. Fail Safe Design G. Typical Circuitry H. System Integration I. Human Factors J. Reliability K. When Not to Use Automation. VIII. CRYOGENICS IN GROUND SUPPORT SYSTEMS *Robert Vance* A. Advantages and Disadvantages. IX. HAZARDS AND SAFETY PROGRAMS *Robert Vance* A. Explosion Characteristics B. LOX-RP-1 C. LH_2-LOX D. LF_2-LH_2 or Other Fuels E. Control by Specification F. Cleaning Standards and Specifications G. Review of Specs—Procurement and Use Limits. X. OPERATIONAL PROCEDURES *John Tucker* A. Operational State of Functional Areas. B. Operational State of Hardware C. Operational Environment D. Set and Subset (Management Planning) E. R & D Operational Program. XI. RELIABILITY *Harry Powell* A. Weapon System Effectivity B. Methods of Measuring and Evaluating Reliability C. Designing for Reliability D. General Reliability Considerations E. Bibliography. XII. WEAPONS EFFECTS *H. Brode* A. Introduction B. Nuclear Radiation C. Air Blast—Shock Hydrodynamics D. Thermal Radiation and Heat Environment E. Cratering F. Ground Shock G. Aftereffects H. Effects on Structures and Equipment. XIII. SURVIVABILITY *Peter Weiser* A. What Do We Have to Do to Survive? Above-ground Facilities C. Below Ground D. Dispersion vs. Hardness E. Survivability Equation of Single Site F. Method of Calculating Survival of Target System G. Site Selection H. How Long Must One Survive? I. Mitigating Effects of Money. XIV. DESIGN AND DEVELOPMENT OF LAUNCHERS *Bernard Willett* A. Introduction B. Definition of Terms C. Development Program for a Typical System D. Special Systems Engineering Problems E. Special Design Engineering Problems F. Problems Resulting from Operational Requirements. XV. MOBILITY CONCEPT *Dave Shonerd* A. Operational Concept of Mobility B. Technical Problem Areas C. Personnel Considerations D. Logistics and Maintenance E. Description of Typical Systems. XVI. DATA ACQUISITION *Waldo Hodson* A. Data Acquisition Systems B. Components of Systems C. Methods and Equipment for Data Channel Calibration. XVII. SUPPORT SYSTEM DATA AND THE PERSONNEL SUBSYSTEM *Tom Walton* A. Relationships—Data Developments—Engineering—Production and Support B. Management Problems C. The Personnel Subsystem—a Long Lead Time Requirement D. Operational—Maintenance Support Data. XVIII. LOGISTICS AND MAINTENANCE *Evans Pickrel* A. Factors Effecting Support Posture B. Computing Initial Allocations of Resources C. Managing Support Resources through System Life.

BUSSARD AND DELAUER—Nuclear Rocket Propulsion

By R. W. BUSSARD, Los Alamos Scientific Laboratory, University of California, and R. D. DELAUER, Ramo-Wooldridge Corp., Los Angeles. *Series in Missile & Space Tech.*
370 *pp.*, 6 *x* 9, 149 *illus.* (1958).....$11.50*r*

Introduces a relatively new field—nuclear rocket propulsion. This field is very broad in scope, covering aspects of the separate regimes of heat transfer, structural analysis, fluid flow, thermodynamics, ballistic flight, reactor physics, and radiation safety. This text presents the features of each of these regimes which are of particular pertinence to nuclear rocket propulsion. The presentation is done primarily in a descriptive fashion. The book is of practical value to the research and development engineer as well as to the scientist.

CONTENTS—Preface. Introduction. Basic Rocket Performance. System Analysis. Heat Transfer and Fluid Flow. Materials. Nucleonics. System Control. Testing. Advanced and Exotic Systems. Appendix. Index.

CARTER—Realities of Space Travel

Edited by L. J. CARTER. *Selected Papers of the British Interplanetary Society.*
420 *pp.*, 5½ *x* 8½, 23 *half-tone plates* (1957) $8.50*rf**

Written on a semi-technical level, this basic handbook on the new science of astronautics is composed of 24 contributions which originally appeared in the *Journal of the British Interplanetary Society*. These articles were written by 16 of the foremost authorities on the subject, most of whom have been associated with the field since the pre-war years.

CONTENTS—INTRODUCTION TO ASTRONAUTICS. L. R. Shepherd—Basic Principles of Astronautics. A. C. Clarke—The Dynamics of Space Flight. A. V. Cleaver—Rocket Engines and Propellants. A. V. Cleaver—Mass Ratios. A. V. Cleaver—Calculation of Take-off Mass. THE SATELLITE VEHICLE. K. W. Gatland, A. M. Kunesch, and A. E. Dixon—Minimum Satellite Vehicles. Professor S. F. Singer—A Minimum Orbital

Instrumented Satellite—Now, T. Nonweiler—Descent from Satellite Orbits Using Aerodynamic Braking. INTERPLANETARY FLIGHT. W. N. Neat—Some Limiting Factors of Chemical Rocket Motors. L. R. Shepherd and A. V. Cleaver—The Atomic Rocket. H. Preston-Thomas—Interorbital Transport Techniques. D. F. Lawden—Determination of Minimal Orbits. PHYSICAL FACTORS IN SPACE FLIGHT. M. W. Ovenden—Meteor Hazards to Space Stations. L. R. Shepherd—The Possibility of Cosmic Ray Hazards in High Altitude and Space Flight. BIOLOGICAL ASPECTS OF SPACE FLIGHT. Colonel P. A. Campbell—Aeromedical and Biological Considerations of Flight above the Atmosphere. A. E. Slater—Sensory Perceptions of the Weightless Condition. N. J. Bowman—The Food and Atmosphere Control Problem on Space Vessels. TARGETS FOR TOMORROW. P. Moore—What We Know about the Moon. P. Moore—The Planet Mars. THE DEVELOPMENT OF ASTRONAUTICS. A. V. Cleaver—A Program for Achieving Interplanetary Flight. ESTABLISHMENTS AND TESTING STATIONS. L. J. Carter—U.S. Naval Ordnance Test Station at Inyokern. L. J. Carter—Anglo-Australian Rocket Testing Range. HISTORY OF ASTRONAUTICS. Major-General Dr. Walter R. Dornberger—European Rocketry after World War I. THE DISTANT FUTURE. L. R. Shepherd—Interstellar Flight. APPENDIX. The British Interplanetary Society. List of Astronautical and Rocket Societies.

* *Including Latin America.*

CHIN—Guided Missile Configuration Design

By S. S. CHIN, The Martin Company.

279 *pp.*, 6 *x* 9, 159 *illus.* (1961) . . . $12.00*i*

Clearly discusses types and classes of missiles and missile configurations, together with their associated uses. Covers aerodynamic characteristics of various external configuration components; missile performance, including evaluation of missile drag and methods of analyzing performance for commonly-used missile trajectories; and static longitudinal stability and control analysis for a simplified two-degrees of freedom. Gives helpful information on such topics as the kinematics of the missile during maneuvering or accelerated flight; the static directional and lateral control design aspects of both cruciform and monowing missiles; problems of dynamic stability; methods of evaluating component air-loads and loading distribution for preliminary analysis; and other important aspects of the field. Also covers free-flight dispersion characteristics of missiles during boost and power-off flight, fundamentals of propulsion and design aspects of both liquid-propellant and solid-propellant rocket motors, and design factors relating to a long-range ballistic missile reentry body with emphasis on heating and free-flight inspection.

CONTENTS—Introduction. General Aerodynamic Design Considerations. Aerodynamic Considerations of Airframe Components. Missile Performance. Static Longitudinal Stability and Control. Maneuvering Flight. Directional Stability and Control. Lateral Stability and Control. Dynamic Stability. Air Loads. Aerodynamic Launching Problems. Free-flight Dispersions. Power-plant-design Considerations. Structural-design Considerations. Appendixes.

DEPARTMENT OF THE AIR FORCE—Guided Missiles

Operational, Design, and Theory

Sponsored by the DEPARTMENT OF THE AIR FORCE. With a foreword by LT. GEN. CHARLES T. MYERS, United States Air Force.

575 *pp.*, 8½ *x* 11, *illus.* (1958) . . . $10.00*i*

A technical guide and reference for all concerned with the handling and operation of guided missiles, and the training of personnel for this purpose. Aerodynamics, propulsion, instrumentation, and electronic control and guidance systems are covered as they relate to the guided missiles field, and methods are given for the operation, maintenance, and inspection of guided missiles control and guidance systems.

CONTENTS—The Story of Guided Missiles. Aerodynamics of Guided Missiles. Propulsion of Guided Missiles. Physics Involved in Guided Missile Design. Components of Guided Missile Control Systems. Components of Guided Missile Guidance Systems. Guided Missile Control Systems. Trajectory Considerations of Guided Missiles. Guided Missile Guidance Systems. Guided Missile Tactics. Guided Missile Instrumentation.

DUNCAN—Dynamics of Atmospheric Entry

By COMMANDER ROBERT C. DUNCAN, Staff Assistant to the Director of Defense, Research, and Engineering, U.S.N. *Series in Missile & Space Tech.*

306 *pp.*, 6 *x* 9, 76 *illus.* (1962) $12.50*i*

Provides scientists, engineers, and students with a mathematical and physical understanding of phenomena associated with the flight of spacecraft and missiles entering the atmosphere of the earth and other planets. Discusses in detail accelerations resulting from interaction of the vehicle with the planetary atmosphere. Presents mathematical techniques which enable determination of all important quantities required during conceptual and early design phases of spacecraft guidance systems. Also presents analytical tools applicable to the analysis of manned and unmanned vehicles, lifting or non-lifting, which penetrate atmospheres at ballistic, orbital, or escape velocities.

GATEWOOD—Thermal Stresses

By B. E. GATEWOOD, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio.

225 *pp.*, 6 *x* 9, 84 *illus.* (1957) $8.00*c*

Gives basic information for dealing with problems involving temperatures, thermal stresses, and material properties. Also indicates possible procedures for solving the various problems associated with elevated temperatures in airplane and missile structure. The book touches on all phases of the design problem for sheet metal structures—the temperature distribution, the elastic and the inelastic thermal stresses in sheet metal structures, and the buckling, deflection, stiffness, fatigue, shock, and flutter effects of elevated temperatures.

CONTENTS—Thermal Stress Equations. Temperature Equations. Transient Temperatures and Stresses in Idealized Structure. Thermal Stresses for One Dimensional Temperature Distribution. Thermal Stress Problems in Two Dimensions. Allowable Stresses at Elevated Temperatures. Stress Analysis at Elevated Temperatures. Thermal Effects on Deflections and Stiffness. General Procedures for Solving the Thermal Stress Equations in Two Dimensions. Appendices.

JENSEN, TOWNSEND, KORK, AND KRAFT—Design Guide to Orbital Flight

By JORGEN JENSEN, GEORGE E. TOWNSEND, JR., JYRI KORK, and JOHN D. KRAFT, Aerospace Division, Martin Marietta Corporation.

896 *pp.*, 8½ *x* 11, 309 *illus.* (1962) . . $18.50*i*

A massive volume of important design data developed in orbit mechanics. Prepared by four noted specialists, this information is presented in logical form and with a degree of accuracy permitting engineering calculations to be made in such major phases of satellite flight mechanics as orbital maneuvers, guidance and control, and satellite rendezvous, recovery, and re-entry. The book contains a wealth of easy-to-use graphs and nomographs supplemented throughout by authoritative discussions which clearly define overall problems of orbital flight and relate these problems to known engineering facts.

CONTENTS—SUMMARY AND INTRODUCTION. ORBIT MECHANICS. List of Symbols. Equations of Motion. Series Expansion for Elliptic Orbits. Nomograms for Solutions of Orbital Parameters. PHYSICAL DATA. Astronautical Constants. Geophysical Data. ORBIT PERTURBATIONS. Special Perturbations. General Perturbations. Magnitudes of the Perturbations. Dif-

ferent Approach to Equations of Motion for Nearly Circular Orbits (Including Perturbations). SATELLITE LIFETIMES. Introduction and Short Review of the Literature. Physical Data. Atmospheric Drag. Orbital Decay Rates. Orbital Lifetimes. Results. Applications. Conclusions, and Recommendations. ASCENT TO ORBIT. Losses Incurred during Launch. Vehicle Sizing. Numerical Staging Study. MANEUVERS. Independent Adjustment of the Orbital Elements. The General Maneuver. Control Laws for Station Keeping in Nearly Circular Orbits. In-Orbit Propulsion System. Micro-Thrust Study. SATELLITE RENDEZVOUS. Development of Equations to Be Utilized. Launch Utilizing the Intermediate Orbit. Compatible Orbits. Direct Launch. Final Closure. SATELLITE RECOVERY. Return from Orbit. Analysis of Orbital Departure Frequency Intervals. Analysis of Departure from Low Altitude Orbits. SATELLITE RE-ENTRY. Trajectory in the Earth's Atmosphere. Decelerations and Re-entry Loads. Stagnation Point Temperatures. Range and Time to Impact. Maneuverability. SATELLITE ORBIT COMPUTATION. Coordinate Systems. Transformations. Data Transformations. Orbit Improvement. Accuracy of the Determination. Existing Computational Facilities. Existing Tracking Facilities. GUIDANCE AND CONTROL REQUIREMENTS. Guidance. Control Systems Requirements. MISSION REQUIREMENTS. Area Coverage. Target Coverage. Satellite Illumination. Determination of the Zenith Angle of a Satellite. Appendixes.

JET PROPULSION LABORATORY—Mariner Mission to Venus

By THE STAFF OF THE JET PROPULSION LABORATORY, California Institute of Technology.

128 *pp.*, 5⅝ *x* 8, 63 *illus.*.....$3.50*c*
*McG-H Paperbacks Ed.**

Provides a complete and thoroughly documented report on the Mariner mission to Venus. The book begins with a brief history of Venus, and the mission given to the Jet Propulsion Laboratory—from the design and development of the spacecraft, launch vehicle, and scientific instruments, to the countdown and launching. It then describes the flight of Mariner and the activities at Space Flight Operations Center, the tracking network, and the analysis of scientific data. The book concludes with discusion of the many records in space set by Mariner, and with the scientific results obtained through the mission.

CONTENTS—*Foreword.* Venus. Preparing for Space. The Spacecraft. The Launch Vehicle. Flight into Space. The Tracking Network. Thirteen Million Words. The Scientific Experiments. The Legacy of Mariner. The New Look of Venus. *Appendix. Index.*

* *Available only through your local bookstore.*

KOELLE—Handbook of Astronautical Engineering

By HEINZ HERMANN KOELLE, George C. Marshall Space Flight Center, National Aeronautics and Space Administration.

1814 *pp.*, 6 *x* 9, 1052 *illus.* (1961)..$27.50*hb*

An exhaustive reference to facts and data on the current state of space flight technology with contributions by more than 150 renowned scientists and engineers. Contains information gathered from thousands of books, articles, and reports which will help the design engineer and scientist to design the space vehicles of today and the future and calculate their performance and cost. Briefly covers the basic theory of astronautical science as well as the applications of space vehicles for the exploration of the universe. Among the many topics covered are military satellites, instrumental scientific satellites, manned space platforms, economics of space flight, geophysical and astrophysical fundamentals, system engineering, engineering materials, astrodynamics, computational methods, satellite orbits, lunar and interplanetary trajectories, atmospheric entry, and orbit determination.

CONTENTS—Fundamentals of Astronautical Engineering. Objectives and Trends. Geophysical and Astrophysical Fundamentals. Engineering Fundamentals. Astrodynamics. Aerodynamic Fundamentals. Powered Flight. Free-flight Trajectories Close to Celestial Bodies. Satellite Orbits. Lunar and Interplanetary Trajectories. Atmospheric Entry. Relativistic Rocket Mechanics. Astrionics. Fundamentals of Astrionics. Astronavigation. Stability and Control. Electrical Systems and Power Sources. Communications Systems and Equipment. Propulsion. Propulsion Fundamentals. Air-jet Propulsion Systems. Solid-propellant Rocket Engines. Liquid-Propellant Propulsion Systems. Advanced Propulsion Systems. Space Vehicles. Design Fundamentals. Terrestrial Vehicles. Space Vehicles. Space-flight Operations. Objectives and Mission Requirements. Manned Space Flight. Operational Role of Man. Ground Operations.

LEES—Air Space, and Instruments

Draper Anniversary Volume

Edited by SIDNEY LEES, Dartmouth College.

516 *pp.*, 6⅜ *x* 9¼, 291 *illus.* (1963) $15.00*r*

This anniversary volume, written in honor of the sixtieth birthday of Charles Stark Draper, provides an authoritative treatment of each of the various areas of engineering where Draper made important advances. It considers his outstanding achievement in formalizing the techniques and procedures for instrument design and development and records the impact of his work and research upon such things as the Polaris missile, nuclear submarine guidance systems, aircraft engines and instruments, gyroscopes, and inertial navigation systems.

CONTENTS—Biography of Charles Stark Draper. Editor's Preface. Charles Stark Draper; an Appreciation, by *Julius A. Stratton.* Military Significance of Draper's Work for the Air Force, by *L. I. Davis.* Past, Present, and Future, by *Robert C. Seamans, Jr.* The Significance of Draper's Work in the Development of Naval Weapons, by *W. F. Raborn.* Influence of the Guidance Designer on Warfare, by *Herbert K. Weiss.* A Geometric-Mechanical Model of an Inertial Guidance System, by *Walter Wrigley.* Short- and Long-term Alignment of Inertial Platforms, by *John Hovorka.* The Trajectory Problem as It Relates to the Mission for Interplanetary Flight, by *Richard H. Battin* and *J. H. Laning, Jr.* Satellite Interception and Rendezvous, by *Norman E. Sears* and *Philip Felleman.* Empirical Solution of Re-entry Trajectories, by *Roger W. Johnson* and *Richard C. Gibson.* The Balancing of Flexible Rotors, by *J. P. Den Hartog.* Dynamic Response of Systems with Structural Damping, by *Stephen H. Crandall.* Problem of Relativity in Time Measurements in Space Vehicles, by *Louis Essen.* Time and Space Navigation, by *W. Markowitz.* Adaptive Control Systems, by *H Philip Whitaker.* Aerodynamic Performance, by *W. H. Cook, C. S. Howell,* and *J. K. Wimpress.* Aircraft Propulsion, by *Walter Swan.* Gustload Considerations in Airplane Design, by *J. R. Fuller.* Electromechanical Components, by *P. J. Gilinson* and *R. H. Frazier.* Precise Materials, by *B. L. Averbach* and *Morris Cohen.* The Dimensional Behavior of Materials, by *Lawrence McD. Schetky.* Toward a Philosophy of System Design, by *I. R. Rogers.* A Strain Gage Pressure Transducer with All-round Performances, by *Yao T. Li.* An Experiment to Test Low-level Accelerometers, by *Wallace E. Vander Velde.* Fire in the Forest, by *Howard Emmons.* Instrumentation for Aero Pilotage, by *John C. Bellamy.* Recent Progress in the Measurement of Liquid Drop Size Distribution, by *D. P. Keily.* Automatic Electronic Optical Pyrometry, by *George P. Bentley.* Rectification of Oscillations in Fluids, by *Erik Mollo-Christensen.* Parametric Waves, by *John D. Trimmer.* Advances in Gyro Performance, by *Claude L. Emerich.* Floated Single-degree-of-Freedom Integrating Gyros, by *William G. Denhard.* The Jog Mechanism in Gyroscopes, by *F. R. Archibald* and *B. P. Blasingame.*

LEONDES—Guidance and Control of Aerospace Vehicles

Edited by CORNELIUS T. LEONDES, UCLA.

Univ. of Cal. Engg. & Sc. Exten. Series.

678 *pp.*, 6 *x* 9, 292 *illus.* (1963)....$19.50*r*

A comprehensive and general survey of guidance and control of aerospace vehicles for terrestrial, satellite, and extraterrestrial systems. Basic or fundamental techniques and results for these various classes of guidance and

control problems are presented. In addition, the present state of progress and future expectations for advanced systems currently in research and development are treated.
CONTENTS—SCOPE AND DEFINITION OF THE PROBLEM. Introduction to the Guidance and Control of Aerospace Vehicles. Trajectory Aspects of Guidance. Inertial and Optical Sensors. TERRESTRIAL SYSTEMS. Inertial Guidance for Cruise Vehicles. Guidance and Control of Rocket Vehicles. Guidance and Control of Mobile-Launched Ballistic Missiles. SATELLITE SYSTEMS. Passive Attitude Control of Satellite Vehicles. Active Satellite Attitude Control. Orbital Guidance. Boost Glide and Re-entry Guidance and Control. EXTRA TERRESTRIAL SYSTEMS. The Theory of Midcourse Guidance in Interplanetary Missions. Lunar and Interplanetary Trajectories. Terminal Guidance for Soft Lunar Landing. Advanced Lunar Operations.

LILLER—Space Astrophysics
By WILLIAM LILLER, Harvard University.
268 *pp.*, 6 *x* 9, 113 *illus.* (1961) $10.00*c*
This is the first book dedicated entirely to astronomical and astrophysical problems investigated from above the atmosphere. The text covers many, if not all, of the recent advances in its field. *Many of the results are reported here for the first time.* This is a compilation of lectures which were delivered by a number of eminent scientists. The contributors include many of the top American space astrophysicists and several prominent international scientists. The book attempts to give a detailed description of the first astronomical experiments made from artificial satellites and space probes. Given also are some of the theoretical investigations that have gone along with these experiments.
CONTENTS—Preface. *William Liller.* Section I. THE EXPERIMENTS: 1. Ultraviolet Spectroscopy of the Sun, *R. Tousey.* 2. Solar Ultraviolet Research, *W. Rense.* 3. Telemetering Monochrometer Measurements of Extreme Ultraviolet Radiation, *H. E. Hinteregger.* 4. Telemetering Monochrometer Measurements of Extreme Ultraviolet Radiation (continued), *H. E. Hinteregger.* 5. Some Plans for Experiments in Space, *B. Rossi.* 6. X-ray and Ultraviolet Radiation Measurements from Rockets, *H. Friedman.* 7. Ultraviolet Astronomical Photometry from Rockets. *A. B. Bosgess III.* Section II. THE THEORY: 8. The Solar Corona and Interplanetary Gas, *S. Chapman.* 9. The Solar Wind, *E. N. Parker.* 11. The Moon, *T. Gold.* 12. The Electric Universe, *H. Bondi.* Section III: THE INSTRUMENTATION: 13. Astrostats for Astrophysical Research in Space, *R. A. Nidey.* 14. Attitude Control of Artificial Satellites, *R. B. Kershner and R. R. Newton.* 15. Choice of Grating Mountings Suitable for a Monochrometer in a Space Telescope, *T. Namioka.* INDEX.

NIELSEN—Missile Aerodynamics
By JACK N. NIELSEN. *Series in Missile & Space Tech.*
450 *pp.*, 6 *x* 9, 219 *illus.* (1960) $12.50*c*
Here is a rational and unified account of the principal results of missile aerodynamics. The emphasis is on supersonic speeds (although subsonic speeds are well treated) but, because the configurational distinctions between airplanes and missiles at high operational speeds are slight, much of the material contained in the book is directly applicable to airplanes. The principal subjects in missile aerodynamics are treated and an adequate mathematical treatment of the subjects for use in design is given.
CONTENTS—Preface. Introduction. Some Formulas Commonly Used in Missile Aerodynamics. Slender Body Theory at Supersonic and Subsonic Speeds. Aerodynamics of Bodies: Votices. Wing-Body Interference. Downwash, Sidewash, and the Wake. Wing-Tail Interference. Aerodynamic Controls. Drag. Stability Derivatives.

NEWELL—Sounding Rockets
Edited by HOMER E. NEWELL, JR., National Aeronautics and Space Administration. *Series in Missile & Space Tech.*
325 *pp.*, 6 *x* 9, 155 *illus.* (1959) $12.50*c*
Provides a comprehensive review of the principal rockets used for high altitude research, particularly geophysical and solar research. Considerable detail is given on the various rockets discussed, on their uses, methods of application to high altitude research, problems encountered, and solutions devised, so that the professional in the high altitude rocket research field can use the text somewhat as a handbook. All principal upper air sounding rockets of the United States, England, France, and Japan are covered.
CONTENTS—Preface. The High Altitude Sounding Rocket. The Use of Rockets for Geophysical and Solar Research. The Use of Sounding Rockets for Military Research, by R. C. TRAUX. The Aerobee Rocket, by J. A. VAN ALLEN, J. W. TOWNSEND, JR., and E. C. PRESSLY. The Aerobee-Hi Rocket, by J. W. TOWNSEND, JR., E. C. PRESSLY, R. M. SLAVIN, and L. KRAFF. Deacon and Cajun, by W. J. O'SULLIVAN, JR., ASP, by R. B. COX. Loki-wasp, by J. E. MASTERSON, Balloon-Launched Rockets for High Altitude Research, by J. A. VAN ALLEN. Aircraft Launched Rockets, by M. D. ROSS, L. KRAFF, JR., and R. M. SLAVIN. Nike-Cajun and Nike-Deacon, by L. M. JONES, W. H. HANSEN, and F. F. FISCHBACH. Terrapin, by S. F. SINGER and A. L. LAWRENCE. Viking. British Sounding Rocket—Skylark, by J. F. HAZELL and E. B. DORTING. French Sounding Rockets—Veronique and Monica, by E. VASSY. The Japanese Sounding Rockets—Kappa and Sigma, by H. ITOKAWA. Future Sounding Rockets, by H. E. NEWELL, JR., E. C. PRESSLY, and J. W. TOWNSEND, JR. Facilities for the Firing of Sounding Rockets. Artificial Satellites of the Earth.

ORDWAY AND WAKEFORD—International Missile and Spacecraft Guide
By FREDERICK I. ORDWAY, III, and RONALD C. WAKEFORD, Melpar, Inc.
412 *pp.*, 8½ *x* 11, 933 *illus.* (1960) . . $25.00*t*
Provides a comprehensive review of all the significant foreign and domestic rockets, missiles, and spacecraft designed and produced during the past 50 years. Offers an exceptionally complete picture of the development of the missile as a military weapon and research tool, and presents, for the first time, technical details of the research and test vehicles which preceded the modern rockets of today. Groups missiles into eight categories—four of a primarily military role and four of a test and research nature—listing important aspects of each, such as launching, warheads, operational use, servicing, field maintenance, and test programs.
CONTENTS—Part One: Background to Missile and Spacecraft Progress. Chronology of Missile Progress. Organization of Missile Activities. Surface-to-surface Missiles. Surface-to-air Missiles. Air-to-surface Missiles. Air-to-air Missiles. Rocket Airplanes, Manned Missiles, and Spacecraft. Test Missiles, Drones, and Special Vehicles. Upper Atmosphere Research Rockets. Space Research Vehicles. Part Two: Guide to Modern World Missiles and Spacecraft. Argentina. Australia. France. Great Britain. Italy. Japan. Netherlands. Sweden. Switzerland. Union of Soviet Socialist Republics. United States of America.

PUCKETT AND RAMO—Guided Missile Engineering
By ALLEN E. PUCKETT, Hughes Aircraft Company, and SIMON RAMO, Ramo-Wooldridge Corp. *Univ. of Cal. Engg. Exten. Series.*
486 *pp.*, 6 *x* 9, 235 *illus.* (1958) $11.75*i*
A well-rounded introduction to guided missile engineering, giving basic knowledge of the various sciences that make up this field and their interrelations. Covers fundamentals of electronics, guidance theory, aerodynamics, airframe performance, and other related subjects. Gives the engineer or physical scientist a knowledge of the contributions of fields outside his specialty, and of how his own work

fits into the total guided missile engineering operation. Combines theoretical and practical material, and emphasizes systems engineering aspects of the subject.

CONTENTS—Preface. The Guided Missile System and Its Components (R. P. Johnson). Aerodynamics of Guided Missiles (A. E. Puckett). Aerodynamic Stability and Control (W. M. Bleakney). The Rocket Motor (M. C. Beebe). Ramjets (L. Stoolman). Information Theory and Missile Guidance (Adler, F. P.). Principles of Missile Navigation (J. M. Wuerth). Random Phenomena and the Precision of Guidance and Control (R. H. Delano). Servos and Feedback Control (R. K. Roney). Instrumental Gyroscopy (G. A. Van Lear and H. A. Lassen). Radio Propagation (B. F. Miller). Microwaves (R. B. Muchmore). Radar (R. S. Julian). Analog Computers (R. H. Griest). Digital Computers (E. C. Nelson). Trajectory Analysis and Flight Simulators (R. R. Bennett). The Integration of Design; Overall System Considerations (J. C. Fletcher). Appendix: Derivation of Generic Drifts (H. A. Lassen). Index.

RAMO—Peacetime Uses of Outer Space

Edited by SIMON RAMO, Thompson Ramo Wooldridge Inc.

279 *pp.*, 6 *x* 9, 58 *illus.* (1961).....$6.95*t*

Awakens us to the increasing impact on our daily existence, caused by developments in science and technology. The text features the most rapidly evolving of all the new advances: our ventures into outer space—more challenging to our future than any other scientific field. Compiled of a series of lectures given by prominent authorities—recognized experts in their fields of government, industry, science, and education. The contributors seek to heighten public responsiveness to the full breadth of the impact of science and technology by emphasizing the peacetime, non-military aspects of space technology.

CONTENTS—Preface. Space Research—A Permanent Peacetime Activity, by *Lloyd V. Berkner.* Impact of the Present World Situation on the Development of Peaceful Uses of Space, by *James H. Doolittle.* Communication in the Space Age, by *Frederick R. Kappel.* Space Technology for World Navigation, by *Vice Admiral John T. Hayward.* Application of Space Science to Earth Travel, by *Leston Faneuf.* Studying the Universe from a Space Platform, by *Leo Goldbers.* The Sun and the Earth—Weather Prediction and Control. Part I (*The Sun and the Earth*) by *Joseph Kaplan.* Part II (*Utilization of Space Vehicles for Weather Prediction and Control*) by *Morris Neiburger.* Atomic Energy and Space by *Willard F. Libby.* The Place of Government in the Utilization of Space, by *Congressman Overton Brooks.* Competitive Private Enterprise in Space, by *Ralph J. Cordiner.* Man in Space: Its Challenges and Opportunities, by *Brigadier General Don D. Flickinger.*

RILEY AND SAILOR—Space Systems Engineering

By FRANCIS E. RILEY and J. DOUGLAS SAILOR.

334 *pp.*, 6 *x* 9, 230 *illus.* (1962)....$12.50*i*

Covers the entire field of astronautics from the standpoint of the practicing engineer. Provides an introduction to the orbital and celestial mechanics necessary for understanding both satellite missions and lunar and interplanetary probes. Describes in detail the latest propulsion, guidance, attitude control, and electrical power systems, and emphasizes man-in-space aspects of the space program. The book also provides data which enables the reader to analyze orbits, determine the effects of staging, predict payloads, and much more.

SAVET—Gyroscopes

Theory and Design

Edited by PAUL H. SAVET, American Bosch Arma Corporation; Adjunct Professor, Polytechnic Institute of Brooklyn.

406 *pp.*, 6 *x* 9, 215 *tables and figures* (1961) $12.75*i*

Provides detailed coverage of such topics as basic gyro theory, including the mechanical analysis of an ideal gyro and the fundamentals of system integration; the design of single- and two-degree of freedom gyros; correction of disturbances in gyrocompasses and stable verticals caused by the movement of vehicles; error analysis and optimization of guidance parameters in inertial guidance systems; and Schuler tuning and its relation to the curvature of the earth. Treats design procedures for eliminating the various causes of error-producing torques; properties and design requirements of spin motors, pickoffs, and other electrical elements of gyros. Presents design studies of systematic and random torques; fluid suspension; elastic coupling; gimbal balance; balance-adjustment weights; gyro spin bearings; bearing lubrication; gyro case and element assembly; gyrowheels; flotation fluids; seals and leak detection; and electromagnetic and electrostatic centering.

CONTENTS—Fundamentals of Vector and Operational Calculus. Theory of the Gyroscope—Part 1. Theory of the Gyroscope—Part 2. Functional Characteristics and Restraints. The Gyrocompass. The Gyro Vertical. Inertial Navigation—Part 1. Inertial Navigation—Part 2. Fundamentals of Gyro Design. Gyroscopic Elements. Electrical Design of Gyros. Gyro Evaluation.

STUHLINGER, ORDWAY, McCALL AND BUCHER—Astronautical Engineering and Science

By ERNST STUHLINGER, FREDERICK I. ORDWAY III, JERRY C. MCCALL, and GEORGE C. BUCHER, all of the George C. Marshall Space Flight Center, NASA, Huntsville, Alabama.

394 *pp.*, 6 *x* 9, 140 *illus.* (1963)....$17.50*i*

This volume commemorates the fiftieth birthday of Dr. Wernher von Braun and is composed of 18 chapters authored by former and present associates of Dr. von Braun. Authors include James A. Van Allen, James E. Webb, Hermann Oberth, William H. Pickering, Ernst Stuhlinger, Walter R. Dornberger, Kurt H. Debus, Wei Ching Lin, as well as a number of other outstanding engineers and scientists. The book is divided into five main sections: Systems and Operations; Advanced Propulsion; Guidance, Control, and Tracking; Spacecraft; Space Physics and Exploration. Topics covered include: development of the Saturn space carrier vehicle, evolution of launch concepts and space-flight operations, the manrating of space carrier vehicles, evolution of earth-lunar transportation systems, ballistic and aeronautical space travel, electric propulsion, a proposed electric spaceship engine, inertial guidance—its evolution and future potential, guidance and control systems for space-carrier vehicles, ground versus onboard tracking for space navigation, problems in radiation shielding for space vehicles, evaporative film cooling for hypersonic re-entry vehicles, scientific results from Juno-launched spacecraft, observation of galactic and solar cosmic rays with Explorer 7, and a possible approach to scientific exploration of the planet Mars.

WIMPRESS—Internal Ballistics of Solid Fuel Rockets

Military Rockets Using Dry-processed Double-base Propellants as Fuel

By R. N. WIMPRESS, Industrial Engineers, Inc., Los Angeles, California.

214 *pp.*, 6 *x* 9, 122 *illus.* (1950).....$7.95*r*

Represents the conclusions of work done on rockets on an OSRD Project at California Institute of Technology from 1941 to 1945. This

book covers only the design and performance of propellant charges in rocket motors. The methods developed are generally applicable to all solid fuels. Other problems associated with rocket motor design, such as ignition, nozzle design, heating of the motor walls, and testing methods, are also considered, and pertinent experimental results presented.
CONTENTS—Nomenclature. Relation of Internal to External Ballistics. Characteristics of Propellant Cases. Burning Properties of Propellants. Steady-state Flow of Compressible Fluids. Nozzle Performance. Flow of Gas Inside Rocket Motors. Determination of Reaction Pressures in Rocket Motors. Design of Propellant Grains. Characteristics of Burning in Perforations. Ignition. Effect of Physical Properties of Propellant on Ballistic Performance. End-burning Grains. Static Testing Equipment. Heat Transfer. Index.

Power Plants and Propulsion

CORLISS—Propulsion Systems for Space Flight
By WILLIAM CORLISS, The Martin Co., Baltimore, Md.
300 *pp.*, 6 *x* 9, 149 *illus.* (1960) . . . $12.50*i*
Presents a comprehensive view of the design, development, and operation of reaction engines for use in outer space. Surveys entire field from turbojets to photon-propulsion, stressing more advanced types of engines. Covers recent progress in ion propulsion, plasma drives, nuclear propulsion, chemical rockets and other areas of research, describing them from engineering viewpoint and comparing them in performance, capability, technical feasibility, and present state of development. Describes such subjects as power generation, specific propulsjon systems, state of the art, and barrier problems in a scientifically accurate and easy to follow style helpful to both technical and nontechnical readers.
CONTENTS—Introduction. Propulsion-system Performance and Space Missions. The Environment of Space. Power Generation in Space. Thermal Propulsion Systems. Electrical Propulsion Systems. Nuclear-particle Generators. Photonic Propulsion Systems. Propulsion Systems Using Natural Force Fields. Summary and Evaluation. Glossary of Terms. Table of Symbols. Bibliography. Index.

STUHLINGER—Ion Propulsion for Space Flight
By ERNST STUHLINGER, National Aeronautics and Space Administration.
In Press
This book discusses the technology of a propulsion system that is seriously considered the best means of sending a manned spaceship to Mars and back. The author is one of the outstanding authorities on the subject. Topics covered include dynamics of propulsion, flight mechanics, the ion motor, electric space power sources, navigation of electrically propelled vehicles, missions, and physical properties of certain elements important in ion propulsion. Major use will be amongst practicing engineers and scientists in astronautics; there will be also some interest amongst the growing number of colleges offering courses in astronautics and astronautical engineering.

Aerospace Vehicles

Maintenance and Operation

CASAMASSA AND BENT—Jet Aircraft Power Systems
By JACK V. CASAMASSA, Russell Associates, Inc., Long Island, N.Y., and RALPH D. BENT, Northrop Aeronautical Institute, Inglewood, California. Second Edition.
327 *pp.*, 8½ *x* 11, 320 *illus.* (1957) . $11.25*t*†
Discusses in detail the theory of jet propulsion, rockets, rocket systems, ramjets, pulsejets, and gas-turbine engines. The book is designed to give a general understanding of jet engine theory and components. It shows how these are applied to modern gas-turbine engines and discusses operation, experience with gas-turbine engines, and application of gas-turbine engines to modern transport aircraft.
CONTENTS—History and Development of Gas Turbines. Theory of Jet Propulsion. The Aviation Gas Turbine. Rockets. Athodyds—Ramjets and Pulsejets. Comparative Advantages and Disadvantages of Gas Turbine Engines. Gas Turbine Fuels. Fuel Systems and Controls. Gas-Turbine Starting and Ignition Systems. Lubricants and Lubricating Systems. Air Inlets, Cooling and Exhaust Systems. Thrust Augmentation. Typical Turbojet Engines. The General Electric J47 Turbojet Engine. The General Electric J73 Turbojet Engine. The Turbo-prop Engine. Commercial Turbo-prop Engines. Operation, Maintenance, and Overhaul. Service Experience Materials for Gas Turbines. Special Applications of Gas Turbines. Modern Jet Transports. Index.

NORTHROP AERONAUTICAL INSTITUTE —Basic Science for Aerospace Vehicles
Edited by JAMES L. MCKINLEY and RALPH D. BENT, both, Northrop Institute of Technology. *Northrop Institute of Technology Series.*
328 *pp.*, 8½ *x* 11, 490 *illus.* (1963) . . $9.95*c*
Presents a thorough coverage of the background needed by those planning to enter the field of maintenance and repair of airframes and engines for conventional aircraft, as well as the newer aerospace vehicles and their components. The fundamental knowledge gained from this text will help students pass the Federal Aviation Authority's Aircraft and Mechanics Licensing examinations. New topics covered include: aerodynamics, theory of flight, theory of hydraulics, materials and standards, weight and balance, gyro instruments, and space study. These added subjects have been described and explained to help technicians understand the operation of aerospace devices and to appreciate more fully the operating mechanisms they must handle.
CONTENTS—Science Fundamentals. Elements of Aerodynamics. Airfoils. Aircraft in Flight. Blueprint Reading. Fundamentals of Drafting. Materials, Standards and Hardware. Structures for Aerospace Vehicles. Hydraulics and Pneumatics. Plumbing for Aerospace Vehicles. Weight and Balance. Pressure Instruments. Mechanical Instruments. Gyro Instruments. A Look into Outer Space. Appendix. Glossary.

NORTHROP AERONAUTICAL INSTITUTE —Aircraft Maintenance and Repair
By NORTHROP AERONAUTICAL INSTITUTE, Technical Development Staff. Revised Edition.
444 *pp.*, 9 *x* 11, 7 *illus.* (1955) $9.50*c*
CONTENTS—Fundamentals of Aircraft Hydraulics. Flow Control Valves. Pressure Control Valves. Hydraulic Systems. Hydraulic-brake Actuating Systems. Landing Gear. Heat-treating and Inspection of Metals. Aircraft Gas-welding Equipment. Gas-welding Technique. Gas-welding Technique for Ferrous Metal. How to Weld Aluminum Alloys. Aircraft Construction and Repair by Welding. Aircraft Sheet-metal Tools, Machines, and Methods. Aircraft Layout Work. Aircraft Riveting.

† *Textbook edition available at educational list price.*

Aircraft Sheetmetal Repairs. Aircraft Woodworking Tools and Machines. Glue, Screws, and Nails for Aircraft Woodwork. Construction and Repair of Wooden Aircraft. Fabric Covering. Dope and Its Application. Aircraft Wire and Cable Work. Assembly and Rigging. Weight, Balance, and Loading.

NORTHROP AERONAUTICAL INSTITUTE —Aircraft Power Plants

By NORTHROP AERONAUTICAL INSTITUTE, Technical Development Staff, RALPH D. BENT, and JAMES L. MCKINLEY. Revised Edition.

363 *pp.*, 9 *x* 11, 7 *illus.* (1955).....$9.50*c*

Step-by-step discussions and simple descriptions provide the student mechanic and the aviation technician with a well-rounded background on aircraft engines, engine accessories and powerplant systems—the information needed to pass the CAA license exam.

CONTENTS—Power-plant Progress. Internal-combustion Engine Principles. Fuel and Fuel Systems for Aircraft. The Float-type Carburetors. The Pressure-injection Type of Carburetor. Supercharging and Induction Systems. Aircraft-engine Classification, Construction, and Nomenclature. Aircraft-engine Lubricants. Engine-starting Systems. Ignition Systems. Valve and Ignition Timing. Engine Control Systems. Propeller Fundamentals. Propellers for Light Airplanes. Propeller Inspection, Maintenance, and Repair. The Principles of Jet Propulsion. Uses of the Gas Turbine. Modern Turbo-Jet Engines. Jet Engine Systems, Operation and Inspection.

NORTHROP INSTITUTE OF TECHNOLOGY —Electricity and Electronics for Aerospace Vehicles

By NORTHROP INSTITUTE OF TECHNOLOGY TECHNICAL DEVELOPMENT STAFF. RALPH D. BENT, Editor.

392 *pp.*, 8½ *x* 11, 526 *illus.* (1961)..$13.95*r*†

Provides technicians, mechanics, inspectors, and maintenance engineers with thorough coverage of basic electrical and electronic theory and shows how these principles are applied to systems in modern aircraft and rocket-propelled vehicles such as missiles and spacecraft. A good knowledge of the contents of the book will enable the reader to understand the operation and function of the many new electrical and electronic devices and systems with which he may be working. Among the recent advances covered are: electrical power systems for modern jet aircraft, semiconductors in electronics, solar batteries, missile control systems and space vehicle communication systems.

CONTENTS—Fundamentals of Electricity. Electromagnetic Induction. Capacitance and Inductance. Alternating Current. Electrical Measuring Instruments. Batteries. Generator Principles. D-c Generators and Controls. A-c Generators and Controls. Electric Motors. Installation of Electrical Systems. Principles of Electronics. Receivers. Transmitters. Electrical Instruments. Electronic Control Systems. Radar. Two-way Radio for Light Aircraft. Radio Systems for Modern Airliners. Electronic Navigation Equipment. Autopilot for Light Aircraft. Autopilot for Jet Airliners. Guidance and Control for Missiles. Communication Systems for Space Vehicles.

Pilot Training

HOYT—As the Pro Flies

By JOHN R. HOYT.

268 *pp.*, 5⅝ *x* 8⅜, 81 *illus.* (1959)..$5.50*td*

John Hoyt, a noted pilot as well as an entertaining author, describes the basic and advanced skills needed for flying today's light planes. He gives short-cuts and easy ways for better take-offs, landings, use of flaps, maps, instruments, and much more—including the problems of night flying and jet flight. Many drawings graphically illustrate the instructions in the book. A superb brush-up for both private and commercial pilots, written by a recognized authority.

LANGEWIESCHE—Stick and Rudder

An Explanation of the Art of Flying

By WOLFGANG LANGEWIESCHE.

388 *pp.*, 6 *x* 9 (1944).....$8.50*t*

Here is the first exact analysis of the art of flying. It represents four years of research, flying and writing, and it shows exactly what the pilot does when he flies, how he does it, and why. The book's main objective is to help the student become a pilot—a good pilot—quickly and surely, and to help the instructor understand more thoroughly the fundamentals of his profession. Careful reading of the book should be the equivalent of several hundred hours of flight practice.

Civil Engineering

McGRAW-HILL CIVIL ENGINEERING SERIES

(Civ. Engg. Series)

Harmer E. Davis, Consulting Editor
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Peurifoy—Estimating Construction Costs
Tschebotarioff—Soil Mechanics, Foundations, and Earth Structures
Urquhart, O'Rourke, and Winter—Design of Concrete Structures
Wang and Eckel—Elementary Theory of Structures

† *Textbook edition available at educational list price.*

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CIVIL ENGINEERING HANDBOOK

Edited by Col. L. C. Urquhart, Deceased, Prepared by a Staff of Specialists. Fourth Edition.
1148 *pp.*, 6 *x* 9, 828 *illus.* (1959) $21.50*hb*

A handy reference to the fundamentals of all the main divisions of civil engineering, giving a fund of principles, methods, practical pointers, and helpful data in authoritative and easy-to-use form. Areas covered range from surveying to water supply, from mechanics and hydraulics to highway and airport engineering, with each section prepared by one or more specialists in that field. New or revised material is included on such topics as photogrammetic surveying, map drafting, interstate highway requirements, design and costs of various pavements, airport runways, stress analysis of continuous beams and frames, welded structures in steel construction, air-entrained concrete, and others.

Surveying

DAVIS AND FOOTE—Surveying Theory and Practice

By Raymond E. Davis, formerly University of California, Berkeley, and Francis S. Foote, University of California, Berkeley. Fourth Edition.
1021 *pp.*, 5½ *x* 8, 436 *illus.* (1963) .. $9.95*c*

Covers the more elementary phases of surveying in considerable detail, emphasizing the appropriate precision of measurement. More advanced phases are sufficiently covered for the purposes of many curricula and for reference. The book combines theory and practice and includes field problems as well as numerical problems.

Contents—Fundamental Concepts. Essential Features of Principal Surveying Instruments. Field Work. Computations. Errors. Map Drafting. Measurement of Distance. Measurement of Difference in Elevation. Differential Leveling. Profile Leveling; Cross-sections; Grades. Plotting Profiles and Cross-sections; Volumes of Earthwork. Measurement of Angles and Directions. The Engineer's Transit. Transit-tape Surveys. Stadia Surveying. Triangulation. The Plane Table. Map Plotting. Calculation of Areas of Land. Principles of Field Astronomy. Azimuth, Latitude, Longitude, and Time. Land Surveying—Rural and Urban. United States Public-land Surveys. Topographic Maps. Topographic Surveying. Route Surveying. Route Curves. Construction Surveys. Mine Surveying. Hydrographic Surveying and Flow Measurements. Photogrammetric Surveying. Map Projections. General Tables. Index.

DAVIS—Elementary Plane Surveying

By Raymond E. Davis, University of California, Berkeley. Third Edition.
507 *pp.*, 5½ *x* 8, *illus.* (1955) $7.50*c*

Covers fundamental relationships of surveying use and adjustment of instruments, techniques of measuring and plotting angles and distances, and the practice of entire surveys.

Contents—List of General Tables. List of Field and Office Problems. Field and Office Work. Errors. Measurement of Distance. Measurement of Difference in Elevation. Differential Leveling. Profile Leveling; Cross-sections; Grades. Plotting Profiles and Cross-sections; Volumes of Earthwork. Measurement of Angles and Directions. The Engineer's Transit. Transit-tape Surveys. Stadia Surveying. Triangulation of Ordinary Precision. The Plane Table. Map Drafting. Map Plotting. Calculations of Areas of Land. Field Astronomy: Latitude and Azimuth. Land Surveying. Topographic Maps. Topographic Surveying. Route Surveying. Construction Surveying. Photogrammetric Surveying.

KISSAM—Surveying Instruments and Methods for Surveys of Limited Extent

By Philip Kissam, Princeton University. Second Edition.
482 *pp.*, 6 *x* 9, 354 *illus.* (1956) $7.50*c*

Covers the fundamentals of surveying and those basic procedures that make up the great bulk of surveying practice. Theory and basic principles are stressed throughout; exact and complete derivations are used; and the principles are rigidly defined and illustrated. The

book views surveying from the point of view of the working surveyor, and thus can be used successfully by the young surveyor for self-study.

CONTENTS—Surveying and Its Applications. The Surveying Method. Horizontal Measurement. The Transit. Use of the Transit. Adjustment of Transit. Traverses. The Level and Benchmark Leveling. Adjustment of Level. Leveling Procedures. Establishing Line and Grade for Construction. Optical Tooling. Miscellaneous Operations. Topographic Surveying. Drawing Maps and Keeping Records. The Elements of the Use of Aerial Photographs. APPENDIX. Computation of Area. TABLES. Common Logarithms of Numbers. Logarithms of Trigonometric Functions. Natural Trigonometric Functions. Stadia Reduction Table. Visual Aids. Index.

KISSAM—Surveying for Civil Engineers

By PHILIP KISSAM, Princeton University.

716 *pp.*, 6 *x* 9, *illus.* (1956).....$9.50*c*

Provides the means for conducting important surveys so they will be more complete and accurate and require less time and money. Describes modern instruments and modern procedures and demonstrates older procedures.

CONTENTS—INSTRUMENTS AND METHODS FOR LARGER SURVEYS. Introduction, Errors, and Planning a Survey. Precise Levels and Differential Leveling. Horizontal Measurement. Angular Measurement. The Compass and the Earth's Magnetic Field. Simple Control Surveys. Topographic Surveys. Planning and Estimating from Topographic Maps. OPERATIONS. Celestial Observations. Boundary Surveys. The U.S. Public Land Surveys. Fundamental Survey Control and the State Coordinate Systems. City Surveys. Mine Surveys. Hydrographic Surveys and Stream Gaging. Bridge and Tunnel Surveys. PROCEDURES FOR PRECISE CONTROL. Precise Level Nets. Precise Triangulation. Precise Traverse Nets. AERIAL. Aerial Mapping. APPENDIX: Probability. Least Squares. The Theory of State Coordinate Systems.

DAVIS AND KELLY—Short Course in Surveying

By RAYMOND E. DAVIS, formerly University of California, Berkeley, and JOE WALLACE KELLY, University of California, Berkeley.

330 *pp.*, 5 *x* 7½, 243 *illus.* (1942)...$6.50*c*

Presents the essential principles and practice of elementary plane surveying in useful form for rapid training of rodmen, chainmen, instrumentmen, and draftsmen.

CONTENTS—Field and Office Work; Errors. Measurement of Distance. Measurement of Difference in Elevation. Differential and Profile Leveling. Measurement of Angles and Directions. The Engineer's Transit. Transit-tape Surveys. Stadia Surveying. Map Drafting. Map Plotting. Calculation of Areas of Land. Topographic Maps. The Plane Table. Topographic Surveying. Route Surveying. Land Surveying. Determination of Azimuth.

ALLEN—Railroad Curves and Earthwork

By C. FRANK ALLEN. Seventh Edition.

Text with Tables.

538 *pp.*, 4 *x* 6¾, *illus.* (1931).....$8.95*c*

Field and Office Tables. Fourth Edition.

290 *pp.*, 4 *x* 6¾, *illus.* (1931).....$7.00*c*

The standard railroad field book. Widely used in colleges and by engineers; distinctive for the fullness and completeness of its many excellent tables.

CONTENTS—Reconnaissance. Preliminary Survey. Location Survey. Simple Curves. Compound Curves. Reversed Curves. Parabolic Curves. Turnouts. Connecting Tracks and Crossings. Spiral Easement Curve. Setting Stakes for Earthwork. Methods of Computing Earthwork. Special Problems in Earthwork. Earthwork Tables. Earthwork Diagrams. Haul. Mass Diagram. String Lining of Curves.

HICKERSON—Route Surveys and Design

Formerly Published under the Title of Route Location and Surveying.

By THOMAS F. HICKERSON, American Society of Civil Engineers. Fourth Edition.

568 *pp.*, 4¾ *x* 7, 155 *illus.* (1959)....$8.95*c*

Here are the basic principles governing the location and design of transportation systems—with particular reference to highways. Because of the revolutionary developments in photogrammetry and electronics since the publication of the third edition, many revisions have been made and much new information has been added. The material on transportation systems, surveys by aerial methods, and electronic equipment and application has been revised. Sections have been included on earthwork quantities by electronic computers and the derivation of formulas for parallel spirals with applications to problems arising in the field. There are 44 tables, twelve of them new and based on original calculations.

CONTENTS—Preface. List of Tables. Transportation Systems. Route Surveys by Ground and Aerial Methods. Circular Curves. Compound and Reverse Curves. Parabolic Curves. Transition Spirals. Spiraled Compound Curves. Elements of Highway Safety and Design. Earthwork. Electronic Equipment and Applications. Drainage Surveys and Facilities. Construction Surveys and Procedures. String-lining Railroad Curves. Railroad Turnouts and Crossings. Miscellaneous. Appendix A. Arc Excess. B. Unsymmetrical Vertical Curve. C. Transition Spiral. D. Spiral Applied to Unshifted Vertical Curve. E. Coordinates *X* and *Y* of Combining Spiral. F. Multicentered Compound Curve. G. Intersection of a Straight Line with a Spiral. Explanation of the Tables. Tables. Index.

SKELTON—Route Surveys

By RUSSELL R. SKELTON, University of New Hampshire.

531 *pp.*, 4¼ *x* 7, *illus.* (1949).....$8.50*c*

Presented in such a manner that the student will immediately sense the engineering approach and appreciate the importance of the economic factors which influence route selection and location. The treatment followed in the book agrees substantially with the modern requirements in the field. In order that the needs of both railroad and highway engineers may be met, the chapter on simple curves treats the highway and railroad curve functions in parallel, showing clearly the essential differences in the two types of curves.

CONTENTS—Introduction. The Reconnaissance. The Preliminary Survey. The Location Survey. Simple Circular Curves. Compound and Reverse Curves. Parabolic Curves and Their Applications. Spiral Curves. String Lining of Curves. Earthwork. Earthwork Distribution. Right-of-way Construction Surveys. Elements of Turnouts. Frogs and Switches. Appendix: Problems. Tables.

Construction Methods and Costs

CARSON—General Excavation Methods

By A. BRINTON CARSON.

386 *pp.*, 7⅛ *x* 10, *illus.* (1961).....$12.85*i*

Designed specifically for those whose work involves earth and rock excavation, ground water control, and bank stabilization. Examines in detail the procedures and equipment used in all classes of excavation, and indicates the rigs best suited to performing each class of work. Treats in detail such important considerations as ground water flows and techniques for handling them; methods for drilling and blasting rock; the newest concepts in soil mechanics; and pertinent aspects of geology, hydraulics, and other allied fields. Each page of text is faced with a full page of line drawings to insure that practical applications are demonstrated clearly.

CONTENTS—Preliminary Investigations. Bulk-pit Excavation. Bulk Wide-area Excavation. Loose Bulk Excavation. Limited-area, Vertical Excavation. Trenching. Control of Ground Water. Excavation Stabilization. Rock Excavation. Transportation of Excavation. Fills, Backfills, and Embankments.

COOMBS—Construction Accounting and Financial Management

By WILLIAM E. COOMBS, Certified Public Accountant.

481 *pp.*, 6 *x* 9, *illus.* (1958).....$12.85*i*

A clearly-written, practical handbook of financial management in the construction industry, written by a specialist who has served as an attorney, accountant, and executive in the construction business. Describes and specifically recommends proper accounting and management procedures. It tells you what records to keep, why they should be kept, and several possible ways of keeping them. Relates accounting and record keeping to the size of the firm, the type of job being contracted, and never loses sight of the fundamental purpose—giving you effective financial control over every operation. Contains 200 tables, charts, and sample forms.

CONTENTS—Basic Operational Patterns. Basic Accounting Patterns. Centralized or Decentralized Accounting. Prejob Procedures. Purchasing Policies and Procedures. Subcontracting Policies and Procedures. Change Order Routines. Accounting for Labor. Accounting for Material and Supplies. Accounting for Equipment Costs. Accounting for Subcontract Costs. Accounting for Overhead. Vouchering and Disbursement Control. Accounting for Income and Cash Receipts. General and Subsidiary Ledgers. Financial and Cost Reporting. Internal Auditing. Camp, Mess Hall, Commissary and Protective Functions. Insurance Problems As They Affect Job Accounting. Forms and Printing in Job Accounting and Reporting. Effect of Personnel Policies on Job Accounting and Reporting. Applications of Accounting Machines. Functions of Outside Accountants. Choice of Accounting Method. Appendix A—Contractor's Job Cost System. Appendix B—Machine Accounting for General Contractor. Appendix C—Conflicting Methods of Accounting for Construction Contracts. Index.

DALLAVIA—Estimating General Construction Costs

By LOUIS DALLAVIA. Second Edition.

197 *pp.*, 6 *x* 9, 160 *tables* (1957).....$8.50*i*

Provides an accurate, fool-proof system for estimating all direct production costs in earthwork, reinforced concrete, masonry, structural steel, and carpentry. This unique system can be applied at any time and in any place with equal validity, and can never go out of date. Presents an index set of unit costs for typical shift crew, against which you compare local crews, arriving at a productivity percentage. By checking that figure against only three tables, you arrive at shift cost, output range, and unit cost for the operation. There is a total of 160 tables and checklists in the book.

CONTENTS—Earthwork. Reinforced Concrete Work. Structural Steel Work. Masonry Work. Rough and Finish Carpentry.

FOSTER—Construction Estimates from Take-off to Bid

By NORMAN FOSTER, Senior Estimator, F. H. McGraw & Company.

256 *pp.*, 7⅛ *x* 10, *illus.* (1961).....$12.75*i*

This comprehensive book presents the step-by-step procedures to be followed in developing an accurate estimate. Through detailed examples, this practical book teaches the fundamentals of good estimating. It contains valuable tips on how to simplify the take-off without sacrificing accuracy; how to combine items for speedy computation; how to make figures work for you; and how to develop an orderly system of taking-off. A complete take-off and estimate for a $1,000,000 building is included to enable you to see how the author's recommended procedures are applied to an actual project. Also discusses overhead, sub-bids, pricing the estimate, and how the unit prices for a bid are built up. For easy reference, all building plan illustrations are contained in a separate, removable booklet, making it possible to refer directly to the plans while reading the related text.

CONTENTS—1. General Methods and Procedures. 2. Excavation and Site Work. 3. Concrete. 4. Reinforcing Steel. 5. Structural Steel. 6. Masonry. 7. Carpentry. 8. Alteration Work. 9. Job Overhead. 10. Subcontractors' Bids. 11. The Completed Take-off. 12. The Estimate. 13. Pricing the Estimate. Appendix. Mensuration and Tables. Index.

FOSTER—Practical Tables for Building Construction

By NORMAN FOSTER, F. H. McGraw & Company.

248 *pp.*, 4⅝ *x* 6¾, *illus.* (1963)....$7.50*i*

This handy, pocket-size digest contains vital numerical data of immediate use to estimators, general contractors, field superintendents, and construction foremen. Here you will find basic information on weights and measures, numerical functions, and climatic and tidal data; separate sections of tabulations useful for earthwork; concrete and formwork; masonry; lathing and plastering; flooring; paints; carpentry and lumber; iron and steel; roofing; glass; and piping.

MERRITT—Building Construction Handbook

Edited by FREDERICK S. MERRITT, *Engineering News-Record*. Prepared by a Staff of Specialists.

853 *pp.*, 6 *x* 9, 700 *illus.* (1958)...$16.00*hb*

Provides in a single volume helpful information on the whole scope of building design and construction. Every reader concerned with this field, especially those who have to make decisions affecting building materials and construction methods will find here the type of fundamental, practical material they can use day after day. With each section written by a specialist, the book covers such areas as building materials, stresses in structures, soil mechanics and foundations, concrete construction, structural steel and other constructions, roofs, acoustics, insulation, heating, ventilating, and air conditioning, plumbing, costs, construction management, and specifications.

MILLER—Successful Management for Contractors

Practical Business Techniques and Procedures for Profitable Contracting

By LAWRENCE C. MILLER.

216 *pp.*, 6 *x* 9, 73 *forms and illus.* (1962) $9.25*i*

A thorough, practical working tool which shows how to plan, schedule, and control operations with emphasis on obtaining more and better business. Contains hundreds of recommended practices and ideas covering all major phases of successful contracting—from designating duties to arranging discounts, from making subcontractor agreements to reducing risks, from formulating company policy to controlling costs. Includes a wealth of ready-to-use charts, records, reports, work sheets—even legal forms and mailing pieces.

CONTENTS—Conditions and Requirements. Organization. Policies and Procedures. Cost Control Code. Estimating and Bidding. Variable-percentage-fee System. Schedules and Reports. Business Operating Forms. Special Problems.

OPPENHEIMER—Erecting Structural Steel
By SAMUEL P. OPPENHEIMER, Consulting Engineer.
256 *pp.*, 6 *x* 9, *illus.* (1960).....$11.00*i*
A useful and practical volume on erecting steel structures of all types. Begins with planning of a structure and proceeds step-by-step to final installation of roof, beams, etc. Topics covered include hoisting, rigging fundamentals and equipment, structural fastenings, welding and burning, reinforcements, miscellaneous iron, erection make ready, estimating, cost accounting, and management.
CONTENTS—Hand Hoisting Devices. Power Hoisting Devices. Rigging Fundamentals. Rigging Equipment. Structural Fastenings. Welding and Burning. Tools and Plant. Structural Plan Analysis. Reinforcing Plan Analysis. Miscellaneous Iron Plan Analysis. Measurements. Erection Make-ready. Erection Setting. Estimating. Quotation. Selling. Men. Cost Accounting. Management. Bibliography. Index.

PEURIFOY—Construction Planning, Equipment, and Methods
By R. L. PEURIFOY, Oklahoma State University. *Civ. Engg. Series.*
534 *pp.*, 6 *x* 9, *illus.* (1956).....$9.95*c*
The purpose of this book is four-fold: 1) to provide text material concerning construction; 2) to provide a guide to assist professional men in planning construction projects; 3) to provide a guide for use in designing projects and writing specifications; and 4) to provide a basis for analyzing the performance, cost, and suitability of various types of construction equipment.
CONTENTS—List of Tables. List of Abbreviations and Symbols. Introduction. Job Planning and Management. Factors Affecting the Selection of Construction Equipment. Engineering Fundamentals. Tractors and Related Equipment. Excavating Equipment. Trucks and Wagons. Rubber Tires. Belt Conveyor Systems. Compressed Air. Drilling and Blasting Rock. Tunneling. Foundation Grouting. Piles and Pile-driving Equipment. Pumping Equipment. Cofferdams. The Production of Crushed-stone Aggregate. Forms for Concrete Structures. Concrete. Safety Engineering. Appendix A: Cost of Owning and Operating Construction Equipment. Appendix B: Construction-equipment Depreciation Schedule. Index.

PEURIFOY—Estimating Construction Costs
By R. L. PEURIFOY, Oklahoma State University. Second Edition.
446 *pp.*, 6 *x* 9, *illus.* (1958).....$12.50*t*†
A complete revision of a popular text for students of civil engineering and architecture and reference for construction engineers, this book is intended to give a full understanding of the principles of estimating the costs of construction. It is also intended to give reasonably accurate production rates for labor and equipment, as a guide to an estimator. The book covers the costs of many types of construction equipment and the hourly costs of owning and operating such equipment.
CONTENTS—Preface. List of Abbreviations and Symbols. Introduction. Cost of Construction Equipment. Handling and Transporting Material. Earthwork and Excavation. Highways and Pavements. Piling and Bracing. Concrete Structures. Floor Finishes. Floor Systems. Masonry. Carpentry. Interior Finish, Mill Work, and Wallboard. Lathing and Plastering. Painting. Glass and Glazing. Roofing and Flashing. Plumbing. Electric Wiring. Steel Structures. Water and Sewerage Systems. Total Cost of Engineering Projects. Appendices. Index.

PULVER—Construction Estimates and Costs
By H. E. PULVER, Consulting Engineer; Emeritus Professor, University of Wisconsin. Third Edition.
640 *pp.*, 6 *x* 9, 126 *illus.* (1960)....$13.00*r*
Covers every aspect of the estimator's job—tells how to compute material, labor, equipment, and overhead costs, plus profit. Discusses all kinds of light and heavy construction work—from excavating, piling, and bracing—to roofing and flashing, lathing, and plastering, heating, air-conditioning, plumbing, electrical work, and painting. This revised edition provides newer material on asphalt walks, driveways and pavements, and includes modern data on wages, materials, prices, and estimating methods. In addition, it presents a new and different method for computing equipment ownership and operating costs, and contains many complete illustrative estimates.
CONTENTS—Estimating in General. Handling and Transporting Materials. Excavation. Piling and Bracing. Concrete. Masonry. Dampproofing and Waterproofing. Wood Construction. Structural Steel. Roofing and Flashing. Lathing and Plastering. Heating and Air-Conditioning. Plumbing. Electrical Work. Painting, Papering, and Glazing. Heavy Machinery. Asphalt Walks, Driveways, and Pavements. Construction Plant and Equipment. Overhead and Profit. Complete Estimates. Approximate Estimates. Construction Management.

QUINN—Design and Construction of Ports and Marine Structures
By ALONZO D. QUINN, Frederick Snare Corp. *Series in Trans.*
531 *pp.*, 6 *x* 9, 319 *illus.* (1961)....$17.75*i*
Gives concise coverage of the important aspects of design and construction of ports and marine structures. Ranges from a survey of the growth and development of ports—through such factors of port design as economic studies, site investigation, and factors governing location—to the design and construction of piers, wharves, port buildings, oil terminals, mobile docks, drilling platforms, and other structures.
CONTENTS—Ports—Their Growth and Development. Designing a Port. Breakwaters. Piers, Wharves, and Bulkheads. Port Buildings. Material Handling Equipment. Oil Terminals. Mobile Docks, Drilling, and Radar Platforms. Navigation Aids.

STUBBS—Handbook of Heavy Construction
Edited by FRANK W. STUBBS, JR., Purdue University. Prepared by a Staff of Specialists.
1040 *pp.*, 6 *x* 9, over 600 *illus.* (1959) $22.50*hb*
A comprehensive and detailed reference covering all phases of heavy construction work. Each chapter takes up a specific construction problem, and is prepared by one or more experts who show important aspects of cost, materials, procedures, equipment, schedules, controls, design, and operations. Modern developments in equipment, methods, and engineering also are thoroughly described. In addition to serving as a complete reference for contractors, the book gives designers, consulting engineers, owners, and others a thorough understanding of all problems involved in a construction project. It also guides the specialist constructor in working effectively as part of the overall job.
CONTENTS—Tractors and Related Equipment. Excavators. Off-highway Hauling. Rock Excavation in Open Cuts and Quarries. Tunnels in Rock. Explosives. Selection of Materials and Mix Proportions for Concrete. Aggregates. Concrete Batching, Mixing, Placing, and Curing. Pneumatically Applied Concrete. Concrete by Intrusion Grouting. Precast and Prestressed Concrete. Reinforcing Steel. Forms. Steel Erection. Electric-arc Welding. Flame Cutting and Welding. Heavy-timber Construction. Bituminous Pavements. Pipelines—Cross Country. Piles and Pile Driving. Cofferdams and Caissons. Cableways. Floating Equipment. Construction Services. Tires for Construction Equipment. River Diversion. Contractor's Organization. Owner's Engineer. Construction Contracts. Safety.

† *Textbook edition available at educational list price.*

COOPER—Building Construction Estimating

By GEORGE H. COOPER, deceased. Second Edition.

398 *pp.*, 6 *x* 9, 188 *illus.* (1959).....$8.25*t*†

An up-to-date edition of a standard, concise text that covers in detail all the work of the estimator and discusses all phases of contracting. Deals with all the required material and includes two sets of plans, specimen estimate sheets, many exercises and illustrations, hundreds of construction terms, essential reference data, and an outline for a comprehensive examination. This text is complete for a course on estimating as offered in technical institutes and colleges, and is a handy reference for the estimator.

CONTENTS—Preface. Bibliography. Introduction. Construction Relations. The Architect. The Contractor. Plan Reading House Plans. Contracts. Technique of Estimating. Quantity Surveying. Expense and Summary Sheets. Excavating. Concrete Foundations. Concrete Floors and Roofs. Mason Work. Rough Carpentry. Cement Work. Plastering. Finish Carpentry. Steel and Iron. Roofing and Sheet Metal. Stone Work. Fireproof Doors and Windows. Tile, Terrazzo and Marble. Painting and Glazing. Hardware. Plumbing. Heating and Air Conditioning. Electric Work. Are You an Estimator? Index.

Soil Mechanics

TSCHEBOTARIOFF—Soil Mechanics, Foundations, and Earth Structures

By GREGORY P. TSCHEBOTARIOFF, Princeton University. *Civ. Engg. Series.*

655 *pp.*, 6 *x* 9, 404 *illus.* (1951).....$8.95*cL*

The theory of soil mechanics is presented in the same book with descriptive material on the practice of foundation and earth structure design and construction, and the interrelationships of the three subjects.

CONTENTS—Special Features of Foundation and Soil Engineering. The Formation of Soil, Geology, Agricultural Soil Science, and Civil Engineering. Definitions and Tests Related to the Properties of the Solid Soil Particles. Definitions and Tests Related to the Density and to the Consistency of Soils. Capillary Phenomena. Permeability of Soils. Ground-water Movements. Frost Action. The Consolidation of Soils. The Shearing Strength and the Shearing Deformation of Soils. The Stability of Vertical Cuts and of Slopes. The Stress Distribution in Soils. The Bearing Capacity of Soils. Lateral Earth Pressures. The Compaction and the Stabilization of Soils. Exploration and Classification of Soils. The Selection of a Suitable Type of Foundation. Spread Foundations. Excavations. Pile and Caisson Foundations. Sheet Piling. Underpinning. Earth-retaining Structures. Cofferdams. Tunnels and Conduits. Some Soil Engineering Aspects of Dam Construction. Effects of Vibratory and of Slow Repetitional Loading of Soils. Machinery Foundations. Some Soil Engineering Aspects of Highway and Airport Construction. Reference. Name Index. Subject Index.

BARKAN—Dynamics of Bases and Foundations

By Dr. DOMINIK D. BARKAN, Doctor of Technical Sciences, U.S.S.R.; Translated by L. DRASHEVEKA; Edited by G. P. TSCHEBOTARIOFF, Princeton University.

496 *pp.*, 6 *x* 9, 200 *illus.* (1962).....$12.50*c*

This book presents the relevant basic premises of soil mechanics, of the theory of elasticity, and of the dynamics of vibratory motion in a coordinated manner. The resulting findings are examined in the light of experimental evidence, and emphasis is placed upon the elastic properties of soils and structural aggregates. The development of design recommendations and of practically usable solutions to machine foundation design problems makes this book admirably suited for practicing civil and mechanical engineers.

SOIL MECHANICS AND FOUNDATIONS LIBRARY $39.75*r*

Chellis—Pile Foundations
Dunham—Foundations of Structures
Krynine and Judd—Principles of Engineering Geology and Geotechnics
Tschebotarioff—Soil Mechanics, Foundations and Earth Structures

Foundations

DUNHAM—Foundations of Structures

By CLARENCE W. DUNHAM, Consulting Engineer, formerly, Yale University. *Series in Civ. Engg.* Second Edition.

744 *pp.*, 6 *x* 9, 500 *illus.* (1962).....$12.75*c*

Deals with the practical application and the theory of foundation engineering and design. The book considers the exploration of soils, a review of some of the principles of foundation action, the design of isolated and combined footings, foundation walls, mats, foundations subjected to overturning, pile foundations, cofferdams, caissons, bridge piers and abutments, underpinning of structures, and machinery foundations. Practical problems are worked out in order to show the application of general principles. This edition includes much new material including an entire new chapter on machinery foundations, and new data on analysis of cellular cofferdams, drainage of soils, driving of sheet piling. In general, the text has been revised and updated.

CONTENTS—Preface. List of Symbols and Glossary. 1. Introduction. 2. Soils as Foundation Materials. 3. Exploration of Site. 4. Some Principles of Foundation Action. 5. Spread Footings. 6. Foundation Walls. 7. Mats. 8. Foundations Subjected to Overturning Forces. 9. Piles. 10. Pile Foundations. 11. Cofferdams and Other Aids for Open Excavations. 12. Caissons. 13. Bridge Piers. 14. Bridge Abutments. 15. Underpinning. 16. Machinery Foundations. APPENDIX. BIBLIOGRAPHY. INDEX.

CHELLIS—Pile Foundations

Theory, Design, Practice

By ROBERT D. CHELLIS, Stone & Webster Engineering Corporation. Second Edition.

704 *pp.*, 6 *x* 9, 234 *illus.*, 59 *tables* (1961) $16.00*i*

Provides extensive coverage of such relationship between borings, soil mechanics, and pile foundations; effective methods for determining pile capacities; driving rigs; factors influencing the selection of pile types; all types of wood, concrete, and steel piles, together with a description of sheet piling; and more. Gives definitive treatments of designs for lateral loads (including those from earthquakes, ship impact, wave forces, and ice), piles in permafrost, decay, insect and marine-borer attack, corrosion, protection and repairs of piles, soil solidification, load tests, examples of failures, and specifications. Included are newer uses for piles; application of the longitudinal-wave theory for pile driving; approximate relationship between numbers of blows on the sampling spoon and types of soils; formulas for determination of end-bearing values of single piles or groups; cone-penetration tests; vane-shear tests; and natural frequencies of soils. Relative merits of hammers, including diesel, air, and steam types, with their respective properties are treated. The book also considers factors related to developing comparative estimated costs of pile types and rigs and offers new tables of properties of piles.

CONTENTS—Basic Principles of Pile Foundations. Pile-driving Analysis. Hammer Speeds, Strokes, and Driving Stresses. Driving Equipment. Selection of Pile and Methods of Driving. Pile Grouping and Spacing.

† *Textbook edition available at educational list price.*

Structural Design of Piles. Wood Piles. Concrete and Pipe Piles. Caisson-type Piles and Caissons. H Piles and Other Metal Piles. Sheet Piling. Deterioration and Preservation of Piles. Soil Strengthening. Pile Load Tests. Failures of Pile Foundations. Tables. APPENDIX.

JACOBY AND DAVIS—Foundations of Bridges and Buildings

By HENRY S. JACOBY, formerly Cornell University, and ROLAND P. DAVIS, West Virginia University. Third Edition.

531 *pp.*, 6 *x* 9 (1941).....$8.95*c*

Treats in a systematic manner the entire subject of foundations for bridges and buildings as represented by the best engineering practice. The present edition contains a new chapter on soil mechanics; new material on piles; cofferdams; caissons; land foundations in open excavations; bridge piers and abutments; etc. CONTENTS—Soil Explorations and Bearing Capacity. Some Fundamentals of Soil Mechanics. Timber Piles and Drivers. Driving and Protecting Timber Piles. Bearing Power of Piles. Concrete Piles. Sand Piles. Metal Piles, and Sheet Piles. Cofferdams. Box and Open Caissons. Pneumatic Caissons for Bridges. Pneumatic Caissons for Buildings. Land Foundations in Open Excavations and Control of Water: Spread Foundations. Bridge Piers. Double-shaft and Pivot Piers. Underpinning Buildings.

LEONARDS—Foundation Engineering

Edited by GERALD A. LEONARDS, Purdue University. *Civ. Engg. Series.*

1146 *pp.*, 6 *x* 9, 487 *illus.* (1962)..$25.00*hb*

Presents a comprehensive treatment of the current status of the science and art of foundation engineering. Emphasis is placed on foundation *design* and *construction*. Full advantage is taken of theoretical analyses whenever they contribute to an understanding of the problem, or when they assist in obtaining safe and economical solutions. The combined knowledge and experience of the contributing authorities develop this text with sufficient continuity and scope to be useful to students and practicing engineers alike. All aspects of soil and foundation engineering are treated, with the exception of embankments, natural and cut slopes, earth dams, levees, highway and airport pavements, which will be considered separately in a companion volume.

CONTENTS—Preface. Introduction, *Ralph Fadum*. 1. Origin, Formation, and Distribution of Soils in North America, *K. B. Woods, R. D. Miles*, and *C. W. Lovell, Jr.* 2. Engineering Properties of Soils, *G. A. Leonards*. 3. Dewatering and Control of Ground Water, *C. I. Mansur* and *R. I. Kaufman*. 4. Soil Stabilization, *T. W. Lambe*. 5. Retaining Structures, *G. P. Tschebotarioff*. 6. Shallow Foundations, *G. F. Sowers*. 7. Pile Foundations, *R. D. Chellis*. 8. Foundations Subjected to Dynamic Forces, *F. J. Converse*. 9. Underpinning, *E. E. White*. 10. Caissons and Cofferdams, *R. E. White*. 11. Culverts and Conduits, *M. G. Spangler*. 12. Field Problems, Compaction, *C. R. Foster*. 13. Field Problems: Field Measurements, *W. L. Shannon, S. D. Wilson*, and *R. W. Meese*. 14. Legal Aspects of Earthwork and Foundation Engineering, *I. V. Werbin*. INDEX.

Structural Engineering

BENJAMIN—Statically Indeterminate Structures

Approximate Analysis by Deflected Structures and Lateral Load Analysis

By JACK R. BENJAMIN, Stanford University. *Civ. Engg. Series.*

347 *pp.*, 6 *x* 9, 267 *illus.* (1959)....$11.50*c*

Concerned with the approximate analysis of statically indeterminate structures using statics and the principles of deflected structures. The detailed procedures of sketching deflected shapes and their analysis are completely developed. Elastic and plastic analysis procedures are integrated with one basic approach. The approximate analysis of structures under lateral loads, rigid-frame structures, and shear-wall structures are covered. Aspects of the philosophy of structural engineering are discussed.

CONTENTS—Preface. Introduction. Review of Structural Mechanics. Approximate Elastic Analysis Using Deflected Structures. Approximate Analysis of Continuous Beams. Approximate Analysis of Rectangular Rigid Frames Subject to Vertical Loads. Approximate Analysis of Rigid Frame Structures Subject to Lateral Loads. Approximate Analysis of Shear-wall Structures Subject to Lateral Loads. Approximate Analysis of Miscellaneous Structures. Structural Forms. Relation of Analysis to Design. Index.

GAYLORD AND GAYLORD—Design of Steel Structures

Including Applications in Aluminum

By EDWIN H. GAYLORD, JR., University of Illinois, and CHARLES N. GAYLORD, University of Virginia. *Civ. Engg. Series.*

540 *pp.*, 6 *x* 9, 250 *illus.* (1957)....$9.50*c*

This book deals with the design of structural members and their connections, with applications to steel bridges, and building frames. In addition, some attention is given to aluminum, because of its increasing importance as a structural metal. Each topic is introduced with a discussion of the relevant theory and with references to experimental evidence, wherever feasible. The relation of theory and tests to standard design specifications is emphasized.

CONTENTS—Preface. Notations. Introduction. Structures, Metals, and Fasteners. Tension Members. Compression Members. Beams. Combined Stresses. Connections. Plate Girders. Industrial Buildings. Steel Bridges. Multistory Buildings. Plastic Design. Appendix. Index.

LEONTOVICH—Frames and Arches

By VALERIAN LEONTOVICH, Bechtel Corporation, San Francisco. *Engg. Soc. Monog.*

472 *pp.*, 6 *x* 9, 523 *illus.* (1959).....$20.00*i*

A new concept in the solution of frames and arches of constant or variable cross section which precisely accomplishes in a matter of minutes the analysis of complex frames. Over 400 condensed, extremely simple solutions of analysis for 20 principal types of statically indeterminate frames and arches are presented here for various vertical or horizontal loads. Scientific tools which greatly reduce time and effort, these solutions permit almost limitless variations in members' shape or cross section. The book applies to steel, concrete, and wood design, and includes comprehensive tables and charts to facilitate the analysis of haunched frames and arches.

LUCY—Practical Design of Structural Members

By THOMAS A. LUCY.

432 *pp.*, 6¾ *x* 10, *illus.* (1957)....$12.00*i*

This comprehensive manual contains hundreds of time-saving short cuts and methods applicable to all conditions and requirements of stress analysis. Developed to meet the special design problems encountered by the structural engineer, this data is readily adaptable to any individual or office procedure. Contains hundreds of useful tables, charts, and diagrams, plus comprehensive analyses and discussions.

CONTENTS—General. Stress Analysis. Reinforced Concrete Columns. Reinforced Concrete Beams and Slabs. Foundations and Footings. Retaining Walls. Masonry. Structural Steel. Steel Beams. Plate Girders. Steel Columns. Rivets and Connections. Angles. Roof Trusses. Graphical Analysis. Wind Stresses. Steel Joists. Steel Deck. Wood. Rigid Frames. Earthquake Resistance.

McKAIG—Applied Structural Design of Buildings

By THOMAS H. McKAIG, Chairman of the New York State Board of Examiners for Professional Engineers and Land Surveyors. Second Edition.

442 *pp.*, 7⅛ *x* 10, *illus.* (1956).....$13.50*i*

A practical office manual containing simple, standardized procedures for solving structural design problems. This unique book had its inception as a series of notes used by the author in his instruction of architects and engineers preparing for state licensing exams. Strictly a practical work, with no attempt to develop theory. Contains short cuts, tables, formulae, sketches—a wealth of practical information—all designed to save hours of detail, help standardize office practice, and simplify the designer's work. Over 500 illustrations, diagrams and tables—over 1,000 indexed topics.

CONTENTS—1. GENERAL PRINCIPLES. Nomenclature. Properties of Materials. Properties of Sections. Selection of System. Design Loads. Mathematical Problems. 2. SIMPLE STRESSES AND ELASTIC THEORY. Simple Stresses. Simple Stress-strain Problems. Deflection. 3. MOMENTS. Steel Beams. Plate Girders. Steel Joists. Corrugated Roofing and Siding. Metal Deck. Subway Grating. 5. REINFORCED CONCRETE IN BENDING. Reinforced Concrete. Reinforced Concrete Beam Design. Shear in Concrete. Solid One-way Reinforced Concrete Slabs. Two-way Concrete Slabs. Gypsum Systems. Tile Arch Construction. 6. TIMBER AND OTHER MATERIALS IN BENDING. Timber Beams and Joists. Cast-iron Lintels. Aluminum Sections. Flitch-plate or Combination Beams. Composite Beams. Trussed Beams. 7. COLUMNS. Steel Columns. Reinforced Concrete Columns. Wood Columns. Cast-iron Columns. Composite or Combination Columns. Column Base Plates. 8. FOUNDATIONS AND WALLS. Foundations—General. Masonry Walls and Piers. Retaining Walls. 9. CONNECTIONS. Riveting and Bolting (Steel). Welding. Timber Joists. Concrete Connections. 10. COMPLEX STRUCTURES. Trusses. Wind Stresses. Shallow Bins and Bunkers. Mill Buildings. Poles and Posts. 11. OFFICE PRACTICE. Structural Check Lists. Survey. Soil Tests. Cost Data. Dimensions and Clearance. Economic Problems of Layout. Checking Steel Shop Drawings.

McKAIG—Building Failures

Case Studies in Construction and Design

By THOMAS H. McKAIG, Consulting Structural Engineer.

261 *pp.*, 6 *x* 9, 139 *illus.* (1962)....$10.75*i*

Presents detailed case studies of over 200 of the most interesting and informative building failures of recent years. The book takes up failures in concrete, in steel, and in other materials; failures resulting from alteration, overloading, wind action, and other causes. For the benefit of those lacking an engineering background, the author provides an introductory chapter that explains the structural principles involved.

NORRIS, HANSEN, HOLLEY, BIGGS, NAMYET AND MINAMI—Structural Design for Dynamic Loads

By CHARLES H. NORRIS, ROBERT J. HANSEN, MYLE J. HOLLEY, JR., JOHN M. BIGGS, SAUL NAMYET, all of Massachusetts Institute of Technology and JOHN K. MINAMI, Waseda University, Tokyo. *Civ. Engg. Series.*

453 *pp.*, 6 *x* 9, 267 *illus.* (1959)....$13.50*c*

Compiled from lecture notes prepared for a special two-week summer program surveying the field of Structural Design for Dynamic Loads at Massachusetts Institute of Technology in 1956.

CONTENTS—Preface. Introduction. BEHAVIOR OF MATERIALS UNDER DYNAMIC LOADING. Behavior of Steel and Steel Elements under Dynamic Loading. Behavior of Concrete and Concrete Structural Components under Dynamic Loading. CALCULATION OF RESPONSE OF STRUCTURAL SYSTEMS TO DYNAMIC LOADING. Dynamic Response of Systems Having One Degree of Freedom. General Theory for Dynamic Response of Concentrated Mass Systems. General Theory for Dynamic Response of Distributed Mass Systems. Miscellaneous Considerations Regarding Dynamic Response Theory. Simplified Analysis and Design for Dynamic Load. MODERN COMPUTATIONAL SYSTEMS TO DYNAMIC LOADING. Introduction to Numerical Integration Methods and Their Application to Dynamic Response Calculations. Introduction to Analog and Digital Computers and Their Application to Dynamic Response Calculations. APPLICATION OF STRUCTURAL DESIGN AND ANALYSIS TO SPECIFIC CASES INVOLVING DYNAMIC LOADING. Introduction to Blast Resistant Design. Weapons Effects Data Applicable to Blast Resistant Design. Behavior of Structures under Blast Loads. Blast Resistant Design Consideration. Examples of Blast Resistant Design. Discussion of Laboratory and Theoretical Developments for Improved Blast Resistant Design. Earthquakes and Earthquake Effects on Structures. Earthquake Provisions in Building Codes. Earthquake Resistant Design Methods and Practice. Vibration of Girders under Moving Traffic Loads. Dynamic Effects of Wind Load.

PFLÜGER—Elementary Statics of Shells

By ALF PFLÜGER, Translated by ERVIN GALANTAY. Second Edition.

122 *pp.*, 6 *x* 9, *illus.* (1961).....$8.75*i*

This practical volume contains a simple and comprehensive presentation of the principles of shell theory. Designed to help the practicing engineer in the calculation of simple shell structures, it will also be of use to students as a supplement to classroom lectures. Primarily a graphic study of the spatial interplay of forces in shells, this approach permits the visual interpretation of equations. Once the equations are set down, their results can be interpreted easily in tables and graphs. Contains an approximate method for the calculation of shells of revolution subjected to loads of rotational symmetry, plus a 19-page appendix with tabulated values of the solutions of the Membrane Theory. Illustrated with over 135 line drawings.

CONTENTS—Translator's Preface. Foreword. 1. Introduction. 2. Membrane Theory of Shells of Revolution. 3. Bending Theory of Shells of Revolution Subjected to Loads of Rotational Symmetry. 4. Membrane Theory of Cylindrical Shells. 5. Membrane Theory of Shells of General Shape. 6. Particulars of Stress Equilibrium. Appendix. Index.

SAUNDERS—Estimating Structural Steel

Including Structural Aluminum and Miscellaneous Materials

By GEORGE A. SAUNDERS, Lehigh Structural Steel Co.

320 *pp.*, 6 *x* 9, 176 *illus.* (1959)....$10.00*i*

Practical book enables the reader to follow, step by step, the process of fabricating and erecting any structural frame, a bridge, building, or related work. It also shows the proper method of compiling an accurate estimate of the final cost of the structure. Starting with the structural fabricating shop, the book follows through in clear detail the various facets of estimating for many types of structures in different materials, including steel and aluminum. Covers the mechanical operations in the shop, equipment, purchasing and construction in the field.

SHANK—Control of Steel Construction to Avoid Brittle Failure

Edited by M. E. SHANK, Massachusetts Institute of Technology. Prepared by Plasticity Committee of the Welding Research Council.

184 *pp.*, 6 *x* 9, *illus.* (1960).....$4.50*r*

Analyzes and evaluates information on brittle failure and organizes it for use with conventional design procedures. Discusses the re-

search dealing with notch sensitive properties of structural steel, summarizing the information and data of significance in design and construction. The book presents basic concepts and mechanisms of notch brittleness and discusses the pertinent mechanical and metallurgical factors which adversely affect local plastic behavior of structural materials. It shows how conventional fabrication procedures affect notch ductility and integrates data to aid in selecting and specifying the best suited materials and fabricating procedures. In addition, there is an evaluation of the limits of conventional design procedures in relation to notch brittleness, and recommendations for use of available notch-brittle test data.

CONTENTS—PART I. MATERIALS. Notch Toughness Behavior. Size Effect. Metallurgical Factors Affecting Brittleness. Specifications. PART II. FABRICATION. Effect of Cold Work and Strain Aging. Effect of Fabrication Notches. Welding Procedures. PART III. DESIGN. General Considerations. Design. Welding. Fatigue.

URQUHART AND O'ROURKE—Elementary Structural Engineering

By LEONARD CHURCH URQUHART, Deceased, and CHARLES EDWARD O'ROURKE, formerly Cornell University.

348 *pp.*, 6 x 9, *illus.* (1941).....$7.95*c*

Covers clearly and concisely the fundamental principles of structural theory and design in steel, timber, and concrete, and discusses the essential basic principles of mechanics and properties of structural materials.

CONTENTS—Structural Mechanics. Structural Materials. Loads on Structures. Homogeneous Beams. Stresses in Trusses. Design of Tension and Compression Members. Connections and Splices. Plate Girders. Deflection. Reinforced-concrete Beams and Slabs. Reinforced-concrete Columns. Footings. Retaining Walls.

VIEST, FOUNTAIN AND SINGLETON—Composite Construction in Steel and Concrete

By IVAN M. VIEST, University of Illinois, R. S. FOUNTAIN, Consulting Engineer, and R. C. SINGLETON, Nelson Stud Welding, Division of Gregory Industries, Inc.

176 *pp.*, 6 x 9, 86 *illus. and tables* (1958) $10.00*i*

A practical engineering manual on the design of steel beams and concrete slabs for composite construction, showing advantages of the method over conventional beam-slab construction, fully covering design procedures, and providing numerous applications. Explaining composite construction in complete detail, it develops design equations and procedures, describes methods of connecting slabs to beams, and presents design formulas, tables, and graphs for preliminary designs as well as many helpful illustrative examples of design procedure.

CONTENTS—Basic Concepts in Composite Design. Composite Beams. Shear Connectors. Design of Composite Beams and Shear Connectors. Design Aids. Appendix—Composite Design for Buildings.

NORRIS AND WILBUR—Elementary Structural Analysis

By CHARLES HEAD NORRIS, University of Washington and JOHN BENSON WILBUR, Massachusetts Institute of Technology. *Series in Struc. Engg. & Struc. Mech.* Second Edition.

651 *pp.*, 6 x 9, 492 *illus.* (1960)....$10.50*c*

This completely revised edition includes a summary of the historical development of the present status of the field of Structural Engineering, along with a suggestion of some of the future trends. The text describes the philosophy of structural design, and shows how the principles of the analysis of structural behavior are used to assist the structural engineer in arriving at his design. It further emphasizes that the primary objective of a structural engineer is to *design* structures, not to analyze them, and that analysis is a means to an end rather than the end itself. Approximately half of the Problems for Solution now have answers as an aid in allowing the student to check the accuracy of his solutions.

CONTENTS—Preface. List of Symbols. Notice to the Student Reader. Introduction (Structures, Design, Loads, Impact, Pressures, Forces, Make-up, Bracing Systems, Stresses, Safety Factor, Practical and Ideal Structures, Problems for Solution). Reactions. Shear and Bending Moment. Trusses or Plane Frameworks. Graphic Statics. Influence Lines. Bridge and Roof Trusses. Long-span Structures. Three-Dimensional Frameworks. Cables. Approximate Analysis of Statically Indeterminate Structures. Deflection of Structures. Stress Analysis of Indeterminate Structures. Influence Lines for Statically Indeterminate Structures. Introduction to Matrix Methods of Structural Analysis. Introduction to Advanced Structural Mechanics. Model Analysis of Structures. Model Methods of Stress Analysis. Other Uses of Structural Models. Index.

TIMBER ENGINEERING COMPANY—Timber Design and Construction Handbook

By TIMBER ENGINEERING COMPANY. Prepared by a Staff of Experts.

622 *pp.*, 6 x 9, *illus.* (1956).....$15.00*hb*

A comprehensive timber design reference and practical field handbook written and edited by 34 engineers and timber specialists. Offers every bit of essential information needed to develop and construct wood structures. The first portion covers the fundamental structural characteristics of wood. Lists types, grades, and ways of preservation. The next ten chapters analyze preliminary design considerations, design details, fabrication and erection. The final chapter presents 129 pages of design and engineering specifications, and precise tabular data allowing easy conversion for particular grades and species. Illustrated with over 360 tables, charts, photographs, and drawings.

CONTENTS—Wood Properties. Commercial Lumber Standards. Preliminary Design Considerations. Post-and-Beam Construction. Roof Trusses. Arches. Special Framing. Exterior Structures. Plywood. Fabrication, Assembly, Erection, and Maintenance. Specification Forms. Reference Data. Design Standards. Glossary. Index.

WANG AND ECKEL—Elementary Theory of Structures

By C. K. WANG, University of Wisconsin, and C. L. ECKEL, University of Colorado. *Civ. Engg. Series.*

390 *pp.*, 6 x 9, 640 *illus.* (1957)....$8.50*c*

Covers algebraic and graphic methods of solving problems in equilibrium of coplanar force systems; shear and bending moments in beams; stresses in trusses; analysis of roof trusses and building bents; influence diagrams; criteria for maximo-moving loads; analysis of highway and railway bridges; and deflections of beams, rigid frames, and trusses. It also presents a simple treatment of common methods of analyzing statically indeterminate structures: namely the consistent-deformation, the slope-deflection, and the moment-distribution methods. Special emphasis is placed on illustrative examples.

CONTENTS—General Introduction. Equilibrium of Coplanar Force Systems. Shears and Bending Moments in Beams. Analysis of Statically Determinate Rigid Frames and Composite Structures. Stresses in Trusses. Analysis of Roof Trusses. Analysis of Building Bents. Influence Diagrams. Criteria for Maximums—Moving Loads. Analysis of Highway and Railway Bridges. Analysis of Statically Indeterminate Beams. Analysis

of Statically Indeterminate Rigid Frames. Analysis of Statically Indeterminate Trusses. The Slope-Deflection Method. The Moment-Distribution Method. Index.

WANG—Statically Indeterminate Structures

By CHU-KIA WANG, University of Wisconsin.

424 *pp.*, 6 *x* 9, 493 *illus.* (1953).....$8.50*c*

Covers the methods of finding deflections of statically determinate beams, rigid frames and trusses, the analysis of statically indeterminate structures by the method of consistent deformation, by the three-moment equation, by the slope deflection and moment distribution methods, and by the method of column analogy. The analyses of fixed arches, secondary stresses in trusses with rigid joints, and composite structures are also treated.

CONTENTS—General Introduction. Deflection of Statically Determinate Beams and Frames. Deflection of Statically Determinate Trusses. Analysis of Statically Indeterminate Beams and Frames by the Method of Consistent Deformation. Analysis of Statically Indeterminate Trusses by the Method of Consistent Deformation. The Three-moment Equation. The Slope Deflection Method. The Moment Distribution Method. The Method of Column Analogy. Analysis of Fixed Arches. Secondary Stresses in Trusses with Rigid Joints. Composite Structures.

DUNHAM—Planning Industrial Structures

By CLARENCE W. DUNHAM, Yale University.

481 *pp.*, 6 *x* 9, 364 *illus.* (1948).....$9.50*c*

Deals with the principles of the planning of structures that must precede numerical calculations. The entire problem is covered: plant location, choice of materials and general types of construction, good practice in building with steel, wood, and concrete, structural action. Specific illustrations and application are taken from the field of industrial construction, and the book is profusely illustrated with drawings and photographs.

CONTENTS—Preface. General Planning of Structures. Exploration of the Site. Daylighting Industrial Plants. Electric Lighting and Power. Ventilation. Roofs. Floors. Walls and Partitions. Steel Mill Building. Multistory Steel Buildings. Concrete Structures. Wooden Structures. Foundations. Machinery Foundations. Miscellaneous Considerations and Structures. Some Lessons in Structural Planning. Index.

HOOL AND KINNE—Stresses in Framed Structures

Compiled by a Staff of Specialists. Editors-in-Chief, G. A. HOOL and W. S. KINNE. Revised by R. R. ZIPPRODT and GEORGE C. ERNST, U.S. Forest Products Laboratory, Madison, Wis. Second Edition.

642 *pp.*, 6 *x* 9, 410 *illus.* (1942).....$8.50*i*

Presents practical information to aid in the accurate calculation of stresses in all types of framed structures. Thoroughly explains the general theory, then authoritatively deals with the applications in roof trusses, bridge trusses, buildings, and tower structures.

CONTENTS—General Theory. Roof Trusses. Bridge Trusses. Lateral Trusses and Portal Bracing. Deflection of Trusses. Redundant Members and Secondary Stresses. Statically Indeterminate Frames. Wind Stresses in High Buildings. Rectangular Tower Structures.

HOOL AND KINNE—Steel and Timber Structures

Compiled by a Staff of Specialists. Editors-in-Chief, G. A. HOOL and W. S. KINNE. Revised by R. R. ZIPPRODT and D. M. GRIFFITH, Bucknell University. Second Edition.

724 *pp.*, 6 *x* 9, 433 *illus.* (1942)....$15.00*c*

Presents authoritative, tested data to aid engineers, construction men, draftsmen, designers, and others, in the design and erection of all types of steel and timber structures. Covers buildings, bridges, trestles, tanks, and chimneys, and provides specific information on problems of selection and design, factors affecting structural steel, steel erection, and estimating steelwork.

CONTENTS—Buildings. Roof Trusses. Short Span Steel Bridges: Timber Bridges and Trestles. Steel Tanks. Chimneys. Structural Steel. Detailing Fabrication of Structural Steel. Steel Erection. Estimating Steelwork. Materials.

Graphic Statics

FAIRMAN AND CUTSHALL—Graphic Statics

By SEIBERT FAIRMAN and CHESTER S. CUTSHALL, Purdue University.

145 *pp.*, 6 *x* 9, 136 *illus.* (1932)....$4.95*c*

The fundamental principles of graphic statics, illustrated by apt problems, solutions, and diagrams. A special feature, distinguishing this text from other works on graphic statics, is the grouping in one volume of the three important topics—Trusses and Bents, Cranes, and Machines.

CONTENTS—Introduction. Fundamental Principles. Trusses and Bents. Cranes, Derricks, and Dredges. Machines. Appendix. Index.

Plain Concrete

BAUER—Plain Concrete

By E. E. BAUER, University of Illinois. Third Edition.

441 *pp.*, 6 *x* 9, 166 *illus.* (1949)....$9.50*c*

Gives professional background in the field of concrete. The main emphasis is on the understanding of materials used in concrete, the terms involved, people who have done work in the field, methods of calculating values, the purpose of doing things in certain ways, and some idea of actual values and conditions in current use.

CONTENTS—Part I: Introduction. Standard Portland Cement. Special Cements. Mineral Aggregates. Admixtures and Water. Theories of Proportioning. Applied Proportioning. Factors Affecting Concrete Strengths. Making of Concrete. Placing, Finishing, and Curing Concrete. Durability, Workability, and Waterproofness. Field Control of Concrete. Specifications, Sampling, Testing. Part II: Instructions for Performance of Laboratory Tests. Tests on Materials. Concrete Projects. Appendixes. Index.

TROXELL AND DAVIS—Composition and Properties of Concrete

By GEORGE EARL TROXELL and HARMER E. DAVIS, University of California, Berkeley. With Chapters by J. W. KELLY. *Civ. Engg. Series.*

434 *pp.*, 6 *x* 9, 108 *illus.* (1956)....$8.95*c*

Designed as a guide to the student in a comprehensive course in the study of plain concrete. Part I is a descriptive textual treatment of the characteristics of cements, aggregates, admixtures, and water used in concrete mixes, the proper proportioning of these materials (with examples), and the batching, mixing, placing, and curing of the concrete to produce a finished product of suitable and predictable quality and economy. Part II comprises instructions for laboratory tests. A list of questions is included at the end of each chapter.

CONTENTS—Preface. PRINCIPLES OF CONCRETE MAKING. The Nature of the Problem. Concrete-making Materials—Portland Cement. Aggregates. Water, Admixtures, and Miscellaneous Materials. Properties of Fresh Concrete. Proportioning of Concrete Mixes, by J. W. Kelly. Manufacture of Concrete. Placing and Curing of Concrete. Forms for Concrete. Strength of Concrete, by J. W. Kelly. Permeability and Durability. Volume Changes and Creep. Other Properties. Special Types of

Concrete. Inspection. Inspection Records and Reports. Analysis and Presentation of Data. INSTRUCTIONS FOR LABORATORY WORK. General Instruction. APPENDIXES. Index.

Reinforced Concrete

CONNOLLY—Design of Prestressed Concrete Beams

By WILLIAM H. CONNOLLY, Structural Engineer, Cleverdon, Varney, and Pike, Consulting Engineers.

264 *pp.*, 6 *x* 9, *illus.* (1960).....$11.50*i*

This authoritative book presents a simplified, rational, and clear-cut method for the design of pretensioned and posttensioned concrete members. Through the use of its design tables you can reduce the tedious trial and error normally involved in design problems. These tables cover the most difficult and time-consuming aspect of prestressed concrete design: selecting the cross-section. Applicable to I-beams, T-beams, long-span members, and composite sections, they are not limited to members of any particular proportions or dimensions. The book places major emphasis on elastic design for bending, gives consideration to prestress losses, shear, and ultimate flexural strength, and uses the report of ACI-ASCE Joint Committee 323 "Tentative Recommendations for Prestressed Concrete" as a guide in considering these factors.

CONTENTS—Notation. Characteristics of Prestressed Design. Posttensioning. Pretensioning. Composite Sections. Table 1: I-beams. Table 2: T-beams. Table 3: Constants for Members beyond Lcr. Table 4: Composite Sections. Appendix I: Gross, Net, and Transformed Sections. Appendix II: Tentative Recommendations for Prestressed Concrete. Appendix III: Special Loading Conditions and Handling. Appendix IV: Chart for z 3/8. References. Index.

DUNHAM—Theory and Practice of Reinforced Concrete

By CLARENCE W. DUNHAM, Yale University. *Series in Civ. Engg.* Third Edition.

499 *pp.*, 6 *x* 9, 300 *illus.* (1953).....$8.95*c*

In this third edition, the quantity of material to be covered has made it desirable to divide the work into two volumes. This, the first volume, covers materials and fundamental principles. The book is written from the viewpoint of the practicing engineer as well as that of the teacher. It contains an introduction to ultimate load design and the analysis of prestressed concrete members as well as the straight line theory.

CONTENTS—Properties and Manufacture of Concrete. Beams Subjected to Bending. Bond. Shear and Web Reinforcement in Beams. Composite Beams. Columns. Combined Bending and Compression. Retaining Walls. Footings. Large Slabs. Forms. Precast Concrete. Prestressed Concrete. Architectural and Miscellaneous Details. Design Problems.

DUNHAM—Advanced Reinforced Concrete

By CLARENCE W. DUNHAM, Consulting Engineer; formerly of Yale Univ.

In Press

A companion volume to the author's *Theory and Practice of Reinforced Concrete*. Designed for graduate students, professional engineers, and architects, it deals primarily with ultimate strength analysis, indeterminate structures, a continuation of prestressed concrete, and the analysis and design of rigid frames, building frames, arches, and folded plates, as well as large slabs.

CONTENTS—Combined Bending and Direct Stresses. Analysis of Rigid Frames by Method of Work. Arches. Analysis of Rigid Frames by Moment Distribution. Building Frames. Large Slabs. Folded Plates. Special Construction. Precast, Pretensioned-concrete Structures.

URQUHART, O'ROURKE, AND WINTER—Design of Concrete Structures

By LEONARD CHURCH URQUHART, Deceased, CHARLES EDWARD O'ROURKE, formerly, Cornell University, and GEORGE WINTER, Cornell University. *Civ. Engg. Series.* Sixth Edition.

546 *pp.*, 6 *x* 9, 271 *illus.* (1958).....$9.50*c*
Tables and Diagrams.....$1.00*c*

Here is a sufficient development of the theory of concrete design with illustrative examples to assure the beginner a thorough understanding of the fundamentals. Complete designs of some of the more common structures are given in order to furnish a vehicle for bringing together all the fundamental theory involved. The book presents material for a first course and one or two advanced courses on the design of reinforced concrete structures. The entire field of the customary reinforced concrete design is covered with the exception of some highly specialized and unusual structures. Emphasis is placed on a thorough discussion of basic structural performance, fundamental mechanics, and physical explanation. This sixth edition reflects all the changes introduced in the new version of the American Concrete Institute's Building Code.

CONTENTS—Preface. Plain Concrete. General Properties of Reinforced Concrete. Beams and Slabs. Columns. Bending and Axial Stress. Continuous Beams and Frames. Footings. Reinforced Concrete Buildings. Retaining Walls. Arches. Slab, Beam, and Girder Bridges. Ultimate-strength Design. Prestressed Concrete. Appendixes. Index.

KOMENDANT—Prestressed Concrete Structures

By AUGUST KOMENDANT, Consulting Engineer.

261 *pp.*, 6 *x* 9, *illus.* (1952).....$10.00*r*

Presents a knowledge of fundamentals and methods of analysis of prestressed concrete structures that is based on familiar theory of reinforced concrete structures. Deals with all phases of prestressing theory, with emphasis on the design, the materials and their properties, and offering a guide to designing not only simple prestressed beams and slabs, but also longspan continuous structures.

CONTENTS—Notation. Indices and Sign Convention. Chapter 1: General Considerations. Reasons for Prestressing. Principles of Prestressing. Systems and Methods of Prestressing. Economic Considerations. Chapter 2: Physical Properties of Materials Used for Prestressed Concrete Structures. Steel. Concrete. Deformations. Chapter 3: Theory of Design of Prestressed Structures. Changes of Forces and Stresses in a Prestressed Structure Due to Shrinkage and Plastic Flow. Method of Design. Illustrative Problems. Prestressed Trussed Beams. Illustrative Problems. Prestressed Trussed Girders. Prestressed Shells. Illustrative Problems. Chapter 4. Representative Prestressed Structures. Appendix: Table 1. Elementary Transcendental Functions. Table 2. Galvanized Bridge Rope. Table 3. Galvanized Bridge Strand. Table 4. Common Styles of Welded Wire Fabric (One-way Types). Table 5. Common Styles of Welded Wire Fabric (Two-way Types). Table 6. Standard Sizes of Reinforcing Bars. Table 7. Dimensional Requirements for Deformed Steel Bars for Concrete Reinforcement. Table 8. Engineering Conversion Factors. Index.

LaLONDE AND JANES—Concrete Engineering Handbook

Edited by WILLIAM S. LaLONDE, Newark College of Engineering; assisted by MILO F. JANES, Consulting Structural Engineer. Prepared by a Staff of Specialists.

1172 *pp.*, 6 *x* 9, 619 *illus.*, 173 *tables* (1961) $25.00*hb*

Presents in concise and practical form the essential methods, standards, and data of concrete engineering—covering the entire field from planning and design of reinforced concrete structures and elements . . . through selection and use of materials and equipment . . . to proved construction practices for buildings, bridges, pavements, and other concrete work. Here is a comprehensive engineering approach that includes such topics as materials for reinforced concrete, precast-concrete construction, estimating, Portland-cement pavements and bases, design of slab and girder bridges, and concrete skin structures. The book also treats deflections in building frames due to earthquake forces . . . prestressed-concrete applications . . . structural theory . . . concrete chimney and bin design . . . torsion effects . . . and much more. Detailed drawings, design charts, and tables point up approved design criteria, and provide a quick grasp of construction techniques and know-how.

CONTENTS—Materials for Reinforced Concrete. Concrete Construction. Precast-concrete Construction. Prestressed Concrete. Structural Theory. Concrete Structures in Torsion. Reinforced-concrete Chimneys. Design of Earthquake-resistant Buildings. Reinforced-concrete Building Frames. Estimating. Portland-cement Concrete Pavements and Bases. Foundations. Earth Pressures and Retaining Walls. Slab and Girder Bridges. Concrete Floors and Piers and Abutments to Steel Bridges. Rigid-frame and Arch Bridges. Concrete Skin Structures. Design of Deep Bins and Silos.

MAGNEL—Prestressed Concrete

By GUSTAVE MAGNEL, University of Ghent. Third Edition.

352 *pp.*, 6 *x* 9, *illus.* (1955) $10.50*rd**

Places at the disposal of students and practicing engineers the theoretical principles of prestressed concrete together with practical design methods. This is a practical treatise on the subject. The numerous numeral applications together with the very extensive chapter on applications are of considerable assistance to the designer. The author, a foremost world authority on the subject, has designed and built all types of prestressed structures, and his knowledge and experience is well presented in this important volume.

CONTENTS—The Principles of Prestressed Concrete. Methods of Prestressing. Design of Statically Determinate Beams. Continuous Structures. Tests. Creep of Steel and Concrete. Buckling of Members. Effect of Time and Load on Prestress. Permissible Stresses in Prestressed Concrete. Applications. Production in Factories.

* *Except Venezuela and Ecuador.*

PEURIFOY—Formwork for Concrete Structures

By R. L. PEURIFOY, Oklahoma State University.

In Press

Presents the methods and materials essential to the design, erection, use, and removal of forms for virtually all of the concrete structures erected today. Contents includes: economy in formwork; properties of concrete and of form materials; form design; shores and scaffolding; failures of formwork; forms for footings and foundations, walls, columns, beams and floor slabs, thin-shell roof slabs, architectural concrete, and concrete bridge decks; patented forms for concrete floor systems; and slipforms. Provides liberal descriptive information, design equations, formulas, illustrated examples, and tables containing information which the reader can use to design formwork for concrete structures quickly and safely.

PRESTON—Practical Prestressed Concrete

By H. KENT PRESTON, John A. Roebling's Sons Corporation.

340 *pp.*, 6 *x* 9, 220 *illus.* (1960) $12.50*i*

Furnishes the structural engineer with all the information required for the design of safe, economical, prestressed concrete structures. Basic principles, design procedures, and numerical examples are presented in terms of simple arithmetic and the formulae for stress and moment which are familiar to all structural engineers. Design examples are based on Tentative Recommendations for Prestressed Concrete, a completely detailed recommended practice for design prepared by an ACI-ASCE committee. Construction methods and equipment are discussed and illustrated. Special attention is given to the details and properties of the types of prestressing tendons used in the U.S.

CONTENTS—Preface. Notations. 1. Basic Principles. 2. Properties Peculiar to Prestressed Concrete. 3. Design Procedure. 4. Numerical Example of Design Procedure. 5. Materials. 6. Pretensioned Method. 7. Post-tensioned Method. 8. Specifications. 9. Design of a Prestressed Concrete Bridge. 10. Design of a Double-T Roof in Lightweight Concrete. 11. Design of a Post-tensioned Girder. 12. Piles. 13. Typical Members and Structures. 14. Continuous Structures. 15. Practical Considerations and General Information. Appendix A. Physical Properties of Tendons. Appendix B. Prestressed Concrete Institute Specifications. Appendix C. Bureau of Public Roads "Criteria for Prestressed Concrete Bridges." Appendix D. Bending Moment Chart for AASHO Loadings. Appendix E. Reader and Committee Comments on "Tentative Recommendations for Prestressed Concrete." Appendix F. Specifications for Prestressing Tendons by American Society for Testing Materials. Index.

WADDELL—Practical Quality Control for Concrete

By JOSEPH J. WADDELL, Riverside Cement Co., Los Angeles.

396 *pp.*, 6 *x* 9, 96 *illus.* (1962) $11.75*i*

A thorough and practical manual of concrete as a building material, with emphasis on the prevention and cure of defects. Covers workability, durability, strength, watertightness, expansion, and shrinkage, with special attention to the variability that is possible, and how to obtain the effects desired. Gives practical guidance on the processing, classification, stockpiling, and inspection of concrete materials—including additives—and recommends techniques for mixing, placing, and curing concrete under a wide range of conditions.

Transportation Engineering

HENNES AND EKSE—Fundamentals of Transportation Engineering

By ROBERT G. HENNES and MARTIN I. EKSE, University of Washington. *Series in Civ. Engg.*

520 *pp.*, 6 *x* 9, 225 *illus.* (1955) $9.95*c*

Combines five types of transportation engineering in a single volume; includes basic instruction in roads and pavements, railway engineering, river and harbor engineering, airfield design, and pipe lines and belt lines

CONTENTS—ROADS AND PAVEMENTS. Foundation Soils. Grading the Roadbed. Stabilized Roads. Bituminous Materials: Properties and Basic Uses. Intermediate Types of Pavement Structure. High-type Bituminous Pavements. Portland-cement Concrete Pavement. Drainage. Planning for Better Roads. General Maintenance of Roads and Streets. AIRPORT ENGINEERING. Airport Planning. Selection of Site. Design Standards. Build-

inss and Apron. Layout. Grading. Drainage. Pavements. Marking and Lighting. RAILROAD ENGINEERING. Historical Development and Present Trends. The Permanent Way. Turnouts, Sidetracks, and Yards. Steam Locomotives. Diesel-electric and Electric Locomotives. Train Resistances. The Velocity Profile. Speed-Time-Distance Calculations. Horsepower Output, and Fuel Consumption. Size and Number of Trains. Economics of Relocation. RIVER AND COASTAL ENGINEERING. Water Transportation. River Hydraulics. Channel Regulation. Locks and Dams. Ports and Harbors. Wind, Waves, Tides, Currents. Wave Motion. Breakwaters and Jetties. Coastal Structures. Port Structures. PIPELINE TRANSPORTATION. Pipeline Transportation. Pipeline Construction. BELT CONVEYORS.

MATSON, SMITH, AND HURD—Traffic Engineering

By THEODORE M. MATSON, WILBUR S. SMITH, and FREDERICK W. HURD, Yale University. *Series in Civ. Engg.*

647 *pp.*, 6 *x* 9, 265 *illus.* (1955) $12.50*c*

Explains highway traffic phenomena by simple and elementary analysis, and shows how highway traffic treatments are founded in restrictive methods on one hand and constructive measures on the other, both of which take place in the environment of administration and planning.

CONTENTS—CHARACTERISTICS. Introduction. The Road User. The Vehicle. Speed. Volume. Origin and Destination. Stream Characteristics. Intersection Characteristics. Parking Characteristics. Accident Characteristics. REGULATIONS. Basic Considerations in Traffic Regulation. Driver Controls. Vehicle Controls. General Controls, Speed Controls. One-way Streets. Curb-parking Regulations. Miscellaneous Regulations. CONTROL DEVICES AND AIDS. Traffic Control Devices. Traffic Signs and Markings. Traffic Signals. Road Lighting. DESIGN. Factors in Traffic Design. Road Surface. Cross Section. Slight Distances. Vertical Alignment. Horizontal Alignment. The Design of Maneuver Areas. Geometric Elements of Intersection Design. Intersection Design. The Traffic Design of Parking Terminals. ADMINISTRATION AND PLANNING. Traffic Engineering Functions and Organizations. Traffic Factors in Administrative Decisions. Traffic and Planning. Offstreet Parking. Traffic Engineering Interests in Highway Finance. Index.

Highway Engineering

HORONJEFF—Planning and Design of Airports

By ROBERT HORONJEFF, University of California. *Series in Trans. Engg.*

546 *pp.*, 6 *x* 9, 227 *illus.* (1962) $16.00*i*

Covers the most up-to-date airport planning and design practices. The text relates aircraft performance and aircraft characteristics to the geometric design of runways, taxiways, and aprons, and other aspects of the airport. The effect of runway configuration on airport capacity is stressed. The text summarizes available methods for structural design of airports pavements. The function and operation of air traffic control and their relations to airport capacity are also described. Included as background material are the nature of civil aviation airport financing, and techniques for estimating volumes of passenger and aircraft traffic.

CONTENTS—The Nature of U.S. Civil Aviation. Airport Financing. Air Traffic Control. Aircraft Characteristics. Estimates of Aeronautical Demand. Airport Site Selection. Airport Configuration. Geometric Design of the Landing Area. Planning and Development of the Terminal Area. Airport Lighting. The Design of Heliports. Structural Design of Airport Pavements. Airport Drainage.

LARSON—Portland Cement and Asphalt Concretes

By THOMAS D. LARSON, Penn. State Univ.

288 *pp.*, 6 *x* 9, 86 *illus.* (1963) $6.95*c*

This book provides a unified treatment of the two principal types of concrete-portland cement and asphaltic. The text considers the nature and performance of cementitious materials, choosing and combining concrete aggregates, and proportioning concretes to meet specific applications. Laboratory and field procedures, developed to assure quality in the production phase, provide the student with a practical understanding of job engineered materials.

CONTENTS—Introduction to the Study of Portland Cement and Asphaltic Concretes. Introduction to Portland Cement Concreted. Elements of Quality Concrete. Aggregates for Portland Cement Concrete. Concrete Mixture Proportioning Methods. Special Concretes and Concrete Admixtures. The Manufacture and Effective Utilization of Concrete. Field Problems and Practices. Introduction to Asphaltic Concretes. Asphaltic Mixtures, Applications, Theory, and Principles. Pavements. Aggregates for Asphaltic Concrete. Aggregate Blending Procedures. Asphaltic Concrete Mix Design Methods. Production, Construction, and Field Control of Asphaltic Concretes. Other Types of Asphaltic Pavements and Miscellaneous Application of Asphaltic Concretes. APPENDIXES. General Laboratory Instructions. Interpretation of Compression Test Results. Weights of Materials. Conversion Factors. U.S. Sieve Series and Tyler Equivalents.

MARTIN AND WALLACE—Design and Construction of Asphalt Pavements

By J. ROGERS MARTIN, Hot Mix Asphaltic Concrete Association of Oklahoma, Inc., and HUGH A. WALLACE, The Asphalt Institute.

298 *pp.*, 6 *x* 9, 172 *illus.* (1958) $12.50*i*

Provides modern methods and technology in the design and construction of many types of asphalt pavements. Subjects covered include types of asphalt pavements, petroleum asphalts, mineral aggregates, design of hot-mix asphaltic concrete, construction of hot-mix asphaltic concrete pavements, asphalt pavements and bases employing liquid asphalts, surface treatments and seal coats, reconstruction of old pavements, design of the flexible system, testing procedures and design methods.

CONTENTS—Types of Asphalt Pavements. Petroleum Asphalts. Mineral Aggregates. Design of Hot-mix Asphaltic Concrete. Construction of Hot-mix Asphaltic Concrete Pavements. Asphalt Pavements and Base Employing Liquid Asphalts. Asphalt Surface Treatments and Seal Coats. Reconstruction of Old Pavements. Design of the Flexible System. Testing Exercises. Index. Appendices. Mix-design Methods. Useful Tables and Their Application.

WOODS—Highway Engineering Handbook

Edited by K. B. WOODS, Head, School of Civil Engineering, Purdue University.

1696 *pp.*, 6 *x* 9, 672 *illus.* (1960) . . . $25.00*hb*

A comprehensive handbook on modern highway engineering—covering the entire field from financing, planning, and traffic engineering to design, construction, maintenance, and landscaping. Its 28 sections—each prepared by a leading specialist—describes methods, standards, specifications and procedures on best highway practice. Finance and administration, route selection, and layout, soil mechanics, testing, highway materials, basic highway design, and rigid pavements are some of the important subjects treated. Includes such helpful material as design of pavements to resist slipperiness—distribution of soils in North America—frost and permafrost as it affects highway design—photogrammetric techniques—and much more.

CONTENTS—Highway Administration and Finance. Highway Planning. Highway Economics. Urban Transportation Planning. Route Selection. Airphoto Interpretation, Photogrammetry, and Digital Computers. Acquisition of Right-of-way. Traffic Engineering. Engineering Characteristics of Soil and Soil Testing. Distribution of Soils in North America. Soil Explorations. Design of Foundations, Embankments, and Cut Slopes. Drainage for Highways and Airports. Earthwork. Distribution, Production, and Engineering Characteristics of Aggregates. Portland Cement Concrete—Materials and Mix Design. Bituminous Mate-

rials and Mixtures. General Materials. Pavement Slipperiness. Soil Stabilization. Geometric Design. Design of Rigid Pavements for Highways and Airports. Construction of Rigid Pavements. Thickness Design Methods for Flexible Pavements. Construction of Asphalt Pavements. Highway Maintenance. Landscaping.

Photogrammetry and Aerial Photographic Interpretation

HALLERT—Photogrammetry
Basic Principles and General Survey
By BERTIL HALLERT, Royal Institute of Technology. Stockholm, Sweden. *Civ. Engg. Series.*
340 *pp.*, 6 *x* 9, 193 *illus.* (1960).....$11.00*c*
This book outlines the fundamental principles of photogrammetry and illustrates the most important photogrammetric procedures used in practice. The beginner receives a simple but technical introduction to the subject. A series of appendixes gives the advanced student the theoretical principles of photogrammetry in a strict scientific manner. Special attention is given to correct determination of the accuracy of photogrammetry.
CONTENTS—Preface. INTRODUCTION. Aims and Principles of Photogrammetry. Fundamental Principles of Double-image Photogrammetry. BASIC PRINCIPLES OF PHOTOGRAMMETRY. Terminology. Geometrical Principles. Optics. Photography. The Measuring Camera. Stereoscopic Vision and Measurement. Photo Interpretation. TERRESTRIAL PHOTOGRAMMETRY. The Theory of Single-image Measurement. The Theory of Double-image Measurement. Terrestrial Photogrammetry in Practice. AERIAL PHOTOGRAMMETRY. Theory and Practical Application of Single-image Measurements. Theory and Practice of Double-image Measurements. Radial Methods. Control Points. Aerial Photography. APPLICATION FIELDS OF PHOTOGRAMMETRY. Terrestrial Photogrammetry. Aerial Photogrammetry. ECONOMY AND ORGANIZATION. Costs and Time Expenditure in Photogrammetric Work. HISTORY. General Development. Appendix A. The Fundamental Projective Relations of Photogrammetry. Appendix B. Introduction to Photogrammetric Theory of Errors. Appendix C. Examples. Bibliography. Index.

LUEDER—Aerial Photographic Interpretation
By D. R. LUEDER, Geotechnics and Resources Inc., White Plains, New York. *Civ. Engg. Series.*
452 *pp.*, 6⅝ *x* 9⅜, 337 *illus.* (1959).$19.50*i*
A thorough manual on the science and art of interpreting aerial photographs as an aid to integrated terrain studies of every type. Covers the fundamentals of interpreting the elements of the aerial photograph; surveys the various types of landforms and their formation; and shows how this knowledge is applied in interpretation for the needs of civil engineering, water supply engineering, mineral exploration, forestry, agriculture, urban and regional planning, etc. Such subjects as PI keys, photogrammetry, and classification systems are discussed, and the need for an inductive and deductive approach by the interpreter is emphasized.
CONTENTS—I. PRINCIPLES AND THEORIES OF PHOTO INTERPRETATION. Explanation of Aerial-Photographic Interpretation. Origin, Landform, Rock Type. Surface-drainage Patterns. Erosion Features. Gray Tones (Also Use of Infrared, Camouflage, and Color Film.) Miscellaneous Elements. Background—Training, Experience. Final Interpretation. II. A LEXICON OF GEOMORPHOLOGY AND LANDFORMS AS SEEN BY THE AERIAL PHOTOGRAPH. Fluvial Landforms. Marine and Lacustrine Landforms. Glacial Landforms. Glaciofluvial Landforms. Aeolian Landforms. Organic-mineral Complexes. Rock Types. III. APPLICATIONS OF AERIAL-PHOTOGRAPHIC TECHNIQUES TO THE VARIOUS FIELDS OF EARTH SCIENCE. Applications of Aerial-Photographic Techniques to Engineering. Geology. Aerial Photography and Geophysics. Applications of Aerial-Photographic Techniques to Agricultural Surveys. Applications of Aerial-Photographic Techniques to Forestry, Botany, and Ecology. Applications of Aerial-Photographic Techniques to Urban, Regional, and Military Studies. Some Practical Considerations and Miscellany.

Hydraulic Engineering

BARROWS—Water Power Engineering
By H. K. BARROWS, formerly Massachusetts Institute of Technology, Consulting Hydraulic Engineer. Third Edition.
791 *pp.*, 6 *x* 9, 315 *illus.* (1943)....$13.50*c*
Sound and authoritative treatment of principles and practice underlying the design of hydroelectric power developments. It covers theoretical fundamentals and the complete water power project, from investigation and estimate to design of the plant, with emphasis on descriptions of equipment, methods of design, data on costs, and other practical features that make it invaluable as a guide and reference for the engineer.
CONTENTS—Water Power Development—Its Distribution and Use. Hydrology. The Study of Stream-flow Data and Water Power Estimates. Hydraulic Turbines and General Arrangement of Plant. The Dam. The Waterway—Canals and Penstocks. Powerhouse and Equipment—Hydraulic and Structural Powerhouse—Electrical. Plant Accessories. Speed and Pressure Regulation. Transmission Lines. Cost and Value of Water Power. Reports and Plant Descriptions.

CHOW—Open-Channel Hydraulics
By VEN TE CHOW, University of Illinois. *Civ. Engg. Series.*
680 *pp.*, 6 *x* 9, 328 *illus.* (1959).....$17.00*c*
Open-Channel Hydraulics deals with the design for flow in open channels and their related structures. Covering both theory and practice, it attempts to bridge the gap that generally exists between the two. Theory is introduced *first* and is then applied to design problems. The book covers most of the advances that have occurred in the field during the past ten years. It deals mainly with American practice but also includes related information from many countries throughout the world. The first English-language book on the subject in two decades, *Open-Channel Hydraulics* is a valuable text for students of engineering mechanics, hydraulics, civil, agricultural, sanitary, and mechanical engineering; and a helpful compendium for practicing engineers.
CONTENTS—Preface. BASIC PRINCIPLES. Open-channel Flow and Its Classifications. Open Channels and Their Properties. Energy and Momentum Principles. Critical Flow: Its Computation and Applications. UNIFORM FLOW. Development of Uniform Flow and Its Formulas. Computation of Uniform Flow. Design of Channels for Uniform Flow. Theoretical Concepts of Boundary Layer, Surface Roughness, Velocity Distribution, and Instability of Uniform Flow. GRADUALLY VARIED FLOW. Theory and Analysis. Methods of Computation. Practical Problems. Spatially Varied Flow. RAPIDLY VARIED FLOW. Introduction. Flow Over Spillways. Hydraulic Jump and Its Use as Energy Dissipator. Flow in Channels of Nonlinear Alignment. Flow through Nonprismatic Channel Sections. UNSTEADY FLOW. Gradually Varied Unsteady Flow. Rapidly Varied Unsteady Flow Flood Routing. Appendixes. Name Index. Subject Index.

DAVIS—Handbook of Applied Hydraulics
Compiled by a Staff of Specialists. Editor-in-Chief, CALVIN VICTOR DAVIS, Harza Engineering Company, Chicago. Second Edition.
1272 *pp.*, 6¼ *x* 9½, *illus.* (1952)..$22.00*hb*
Provides a wealth of reference facts on all phases of hydraulic engineering—concise information on experience, advances, and methods helpful in the planning and designing of efficient hydraulic works. Deals with theo-

retical aspects of hydraulics. Covers hydrology, water supply, sewerage, water power, and hydraulic structures. Includes expanded treatment of gravity dams, advances in design of spillways, and stream-bed protection.

CONTENTS—River Regulation by Reservoirs. Gravity Dams. Arch Dams. Buttress Dams. Earth Dams. Rock-fill Dams. Spillways and Streambed Protection Works. Spillway Crest Gates. High-pressure Outlet Works. Canals, Flumes, Covered Conduits, Tunnels, and Pipe Lines. Hydroelectric Plants. Hydraulic Machinery. Water Hammer. Surge Tanks. Speed Regulation and Governing Stability. Navigation Locks. Irrigation. Irrigation Structures. Water Supplies. Water Distribution. Sewerage. Sewage-treatment Hydraulics. Hydraulic Models. Hydrology.

ELEVATORSKI—Hydraulic Energy Dissipators

By EDWARD A. ELEVATORSKI, University of Arizona. *Engg. Soc. Monog.*

228 *pp.*, 6 *x* 9, 173 *illus.* (1959).....$10.00*r*

A guide to the design, functions, and uses of hydraulic energy dissipators, this book covers both the theoretical and the practical aspects of hydraulic jumps; stilling basins; open-channel flow; outlet works controls; jet diffusion and impact stilling basins; ski-jump, arch dam, and bucket-type energy dissipators; drop structure stilling basins, and many other topics. Also discussed are prevention of erosion below existing dams; model tests and model-prototype conformance; and hydraulic design criteria.

CONTENTS—Functions of Energy Dissipators. Concepts of Open Channel Flow. Elements of the Hydraulic Jump. Hydraulic Jump in Rectangular Channels. Hydraulic Jump in Non-Rectangular Channels. Hydraulic Jump in Sloping Channels. Energy Dissipation by the Hydraulic Jump. Hydraulic Design Criteria. Hydraulic Jump-Type Stilling Basins. Stilling Basin Appurtenances. Stilling Basins for Small Outlet Works, and Low-Medium High Spillways. Stilling Basins for Large Outlet Works, and High Spillways. Control Mechanisms. Jet Diffusion and Impact Stilling Basins. Special Stilling Basins. Ski-Jump and Arch Dam Energy Dissipators. Drop Structure Stilling Basins. Bucket-Type Energy Dissipators. Model Tests and Hydraulic Structures. Erosion Below Dams.

HARR—Groundwater and Seepage

By MILTON E. HARR, Purdue University.

470 *pp.*, 6 *x* 9, 87 *illus.* (1962).....$13.50*r*

Presenting an organized, self-contained development, this book provides an analytical approach to the solution of groundwater and seepage problems and to the understanding of the design and analysis of earth structures that impound water. Problems dealing with estimating the quantity of seepage, definition of the flow domain, and stability are considered in detail.

CONTENTS—Fundamentals of Groundwater Flow. Application of the Dupuit Theory of Unconfined Flow. Conformal Mapping by Elementary Functions. Special Mapping Techniques. Confined Flow. Approximate Methods of Solution for Confined Flow Problems. Unconfined Flow Through Earth Structures on Homogeneous Foundations of Great Depth. Unconfined Flow Through Homogeneous Earth Structures of Finite Depth. Seepage from Canals and Ditches. Seepage Toward Wells. Appendix. References.

KING AND BRATER—Handbook of Hydraulics, 5th Ed.

For the Solution of Hydrostatic and Fluid Flow Problems

By HORACE WILLIAM KING and ERNEST F. BRATER, Univ. of Michigan.

571 *pp.*, 5 *x* 7½, *illus.* (1963)....$15.00*hb*

Gives in compact, accessible form the fundamental concepts and tabular data needed to solve a wide variety of problems of liquid flow. Numerical examples are included to illustrate the methods of problem-solving, and the material has been organized and presented to facilitate rapid, accurate calculation. Tables of coefficients, in particular, simplify and expedite the handling of the principal equations of flow.

CONTENTS—Fluid Properties and Hydraulic Units. Hydrostatics. Fundamental Concepts of Fluid Flow. Orifices, Gates, and Tubes. Weirs. Pipes. Steady Uniform Flow in Open Channels. Open Channels with Nonuniform Flow. High-velocity Transitions. Wave Motion and Forces. Spatially Variable and Unsteady Flow. Measurement of Flowing Water. Tables.

LINSLEY AND FRANZINI—Water-Resources Engineering

By RAY K. LINSLEY and JOSEPH B. FRANZINI, both of Stanford Univ. *Series in San. Sc. & Water Resources Engg.*

684 *pp.*, 6 *x* 9, 383 *illus.* (1963)....$14.00*c*

Titled *Elements of Hydraulic Engineering* in the first edition, the present title reflects an even greater emphasis on the broad aspects of the topic, now including water resource planning and development. The book integrates the entire field of water-resource engineering, including hydrology, water law, hydraulic structures, economics, and planning. The approach is basic, with emphasis on why rather than how. For a senior course for civil engineers preparatory to graduate studies.

CONTENTS—Introduction. Descriptive Hydrology. Quantitative Hydrology. Groundwater. Water Law. Reservoirs. Dams. Spillways, Gates, and Outlet Works. Open Channels. Pressure Conduits. Hydraulic Machinery. Engineering Economy in Water-Resource Planning. Irrigation. Municipal and Industrial Water Supply. Hydroelectric Power. River Navigation. Drainage. Sewage Disposal and Water Quality Control. Flood Control. Planning for Water-Resources Development. Appendix. Index.

SCHODER AND DAWSON—Hydraulics

By ERNEST W. SCHODER, formerly Cornell University, and FRANCIS M. DAWSON, State University of Iowa. Second Edition.

429 *pp.*, 6 *x* 9, *illus.* (1934).....$8.50*c*

CONTENTS—PART I.—HYDROSTATICS. Pressure Heads, Pressures, and Balancing Columns. Total Liquid Pressure against Submerged Surfaces; also Pressure Centers. Stability of Gravity Dams, Air and Gases, Static Conditions. Buoyancy and Flotation. Logarithmic Plotting. PART II.—THE FLOW OF FLUIDS. The Flow of Liquids through Orifices. Converging and Diverging Flows. Bernoulli's Theorem. The Flow of Water over Weirs. Exponential Laws of Variation, and Percentage Effects Due to Small Changes in the Variables. Steady Uniform Flow of Fluids in Pipes and Open Channels. General Consideration of Viscous and Turbulent Flow. Exponential Formulas and Diagrams for Flow of Water in Pipes. Equivalent, Compound, Looping, and Branching Pipes. Uniform Flow of Water in Open Channels. Deviated Flow. Nozzle-type Water Turbines. Water Turbines. Centrifugal Pumps. APPENDIX A.—Brief Notes on Hydraulic Measurements. APPENDIX B.—Time Required to Fill and Empty Tanks, Canal Locks, Reservoirs, etc., through Orifices or Pipes under Variable Heads. APPENDIX C.—Backwater. APPENDIX D.—Water Hammer. APPENDIX E.—The Hydraulic Jump. APPENDIX F.—Notes on Orifices. APPENDIX G.—Table of Experiments on Pipe Friction. INDEX.

DAUGHERTY—Hydraulic Turbines

By R. L. DAUGHERTY.

285 *pp.*, 6 *x* 8, *illus.* (1920).....$7.95*c*

With the increasing use of water power many men will find it necessary to become familiar with the construction of turbines, understand their characteristics, and be able to make an intelligent selection of a type and size of turbine for any given set of conditions. This book presents a clear understanding of the theory of turbines.

CONTENTS—Introducton. Types of Turbines and Settings. Water Power. The Tangential Water Wheel. The Reaction Turbine. Turbine Governors. General Theory. Theory of the Tangential Water Wheel. Theory of the Reaction Turbine. Turbine Testing.

General Laws and Constants. Turbine Characteristics. Selection of Type of Turbine. Cost of Turbines and Water Power. Design of the Tangential Water Wheel. Design of the Reaction Turbine. Centrifugal Pumps. Appendix. Index.

Hydrology

CHOW—Handbook of Applied Hydrology

Edited by VEN TE CHOW, Univ. of Illinois. Prepared by a Staff of Specialists.

In Press

A comprehensive presentation of the principles and data required for the study and management of water and water resource projects. Discusses the fundamental sciences underlying hydrology and the hydrologic cycle, with due attention to applications in difference areas, and flood and flow control. Also surveys the legal, economic, and political factors, and offers guidance on the planning, design, and development of water resource systems and projects.

CONTENTS—Hydrologic Data and Network. Oceanography. Meteorology. Geology. Soil Physics. Ecological and Silvicultural Aspects. Fluid Mechanics. Statistical Analysis. Rainfall. Snow and Snow Surveys. Evapo-transpiration. Infiltration. Ground Water. Surface Runoff. Stream-flow Measurement. Ice and Glaciers. Sedimentation. Low Stream Flow and Droughts. Quality of Water. Hydrology of: Urban Areas; Agricultural Lands; Forest and Rangelands; Lakes and Swamps; Arid and Semiarid Regions. Flow Control. Water Resource Planning, Development, and Design. Legal Aspects. Water Policy. Computer Applications.

LINSLEY, KOHLER, AND PAULHUS—Applied Hydrology

By RAY K. LINSLEY, JR., Stanford University, MAX A. KOHLER and JOSEPH L. H. PAULHUS, Bureau of Reclamation, U.S. Weather Bureau. *Series in Civ. Engg.*

689 *pp.*, 6 *x* 9, *illus.* (1949).....$11.50*c*

Deals with the factors governing the movement of water in all its phases through the hydrologic cycle. Explains the fundamental relations involved in hydrologic phenomena, and the development of techniques in computing and forecasting streamflow, evaporation, and snowmelt. The application of these principles to the solution of flood control, irrigation, drainage, and related problems is discussed in detail.

CONTENTS—Introduction. Climate. Temperature in the Atmosphere. Atmospheric Humidity. Winds. Precipitation. Snow, Ice, and Frost. Evaporation and Transpiration. Streamflow. The Basin. Surface Retention and Detention and Overland Flow. Soil Physics. Sedimentation. Groundwater. Hydrograph Analysis. Runoff Relationships. Runoff Distribution. Waves. Streamflow Routing. Design Criteria. Design and Operation of Water-control Works. River Forecasting.

LINSLEY, KOHLER, AND PAULHUS—Hydrology for Engineers

By RAY K. LINSLEY, JR., Stanford University, MAX A. KOHLER, U.S. Weather Bureau, and JOSEPH L. H. PAULHUS, U.S. Weather Bureau. *Series in Civ. Engg.*

340 *pp.*, 6 *x* 9 (1958).....$8.95*c*

Presents the background theory and specific techniques of engineering hydrology in simple, readable terms. In general the contents have been limited to those aspects of hydrology which concern the engineer. Emphasis is on techniques which utilize correlation methods and eliminate judgment to the maximum possible extent. Although the presentation is at an elementary level, generous references are given for further study. Problems for solution are included.

CONTENTS—Preface. List of Symbols and Abbreviations. Introduction. Weather and Hydrology. Precipitation. Streamflow. Evaporation and Transpiration. Groundwater. Characteristics of the Hydrograph. Runoff Relations. Hydrographs of Runoff. Streamflow Routing. Frequency and Duration Studies. Sedimentation. Application of Hydrologic Techniques. Appendix A—Graphical Correlation. Appendix B—Physical Constants, Conversion Tables, and Equivalents. Index.

Sanitary Engineering

SAWYER—Chemistry for Sanitary Engineers

By CLAIR N. SAWYER, Associate and Director of Research, Metcalf & Eddy, Engineers, Boston; formerly Massachusetts Institute of Technology. *Series in San. Sc. & Water Resources Engg.*

367 *pp.*, 6 *x* 9 (1960).....$9.95*c*

A unique contribution by one of the country's leading sanitary chemists, this book discusses the fundamental chemistry that serves a basis of Sanitary Engineering practice. The material is presented in two parts: Part I summarizes the basic chemistry from each of the eight fields—general, qualitative, quantitative, organic, physical, colloidal, biochemistry, and radiochemistry—in separate chapters. Emphasis is on aspects which are of greatest value to sanitary engineers. Part II is concerned with a treatment of the analytical aspects of water, sewage, and industrial wastes. The overall treatment is practical, but essential theoretical aspects of the subject are not neglected.

CONTENTS—Preface. FUNDAMENTALS OF CHEMISTRY FOR ENGINEERS. Introduction. Basic Concepts from General Chemistry. Basic Concepts from Qualitative Chemistry. Basic Concepts from Quantitative Chemistry. Basic Concepts from Organic Chemistry. Basic Concepts from Physical Chemistry. Basic Concepts from Colloid Chemistry. Basic Concepts from Biochemistry. Basic Concepts from Radiochemistry. WATER, SEWAGE, AND INDUSTRIAL WASTE ANALYSIS. Introduction. Turbidity. Color. Standard Solutions. pH. Acidity. Alkalinity. Chemical Coagulation of Water. Hardness. Water Softening. Residual Chlorine and Chlorine Demand. Chlorides. Dissolved Oxygen. Biochemical Oxygen Demand. Chemical Oxygen Demand. Nitrogen. Solids. Iron and Manganese. Fluoride. Sulfate. Phosphorus and Phosphate. Grease. Volatile Acids. Gas Analysis. Index.

STEEL—Water Supply and Sewerage

By E. W. STEEL, University of Texas. Fourth Edition.

655 *pp.*, 6 *x* 9, 264 *illus.* (1960)....$11.50*c*

Provides information for designing engineers, city engineers, public health engineers and water and sewage treatment plant operators, presenting the development of municipal water supplies, surface and ground; design and construction of water distribution systems; water quality in relation to public health and industrial uses; and water treatment. It also treats design and construction of sanitary, storm and combined sewer systems; characteristics of sewage; stream pollution and correction; and treatment and disposal of sewage and other liquid wastes.

CONTENTS—Preface. List of Abbreviations. Introduction. Quantity of Water and Sewage. Rainfall and Runoff. Ground Water. Aqueducts and Water Pipes. Collection and Distribution of Water. Pumps and Pumping Stations. Quality of Water Supplies. Treatment of Water—Clarification. Treatment of Water—Filtration. Miscellaneous Water Treatment Methods. Sewerage—General Considerations. Amount of Storm Sewage. Sewer Pipes. Flow in Sewers. Sewer Appurtenances. Design of Sewer Systems. Sewer Construction. Maintenance of Sewers. Characteristics of Sewage. Sewage Disposal. Screens and Skimming Tanks. Sedimentation of Sewage. Sewage Filtration. Activated Sludge. Sludge Treatment and Disposal. Miscellaneous Sewage Treatment Problems. Financing and Management. Appendix. Index.

BABBITT, DOLAND, AND CLEASBY—Water Supply Engineering

By HAROLD E. BABBITT, University of Illinois; JAMES J. DOLAND; and JOHN L. CLEASBY, Iowa State University. *Civ. Engg. Series.* Sixth Edition.

679 *pp.*, 6 *x* 9, 256 *illus.* (1962)....$12.50*c*

Confined principally to problems of engineering in public water supplies. The text covers in detail, practically and specifically, the applications of science and art to the solution of problems in the design, construction, operation, and management of waterworks and the treatment of water. This edition features a new and extensive chapter on Management, applicable to the field of waterworks in particular and to all public utilities in general. The chapter includes an exposition of the principles of the mathematics of finances and their application to utility financing. The new appendix on problems aids the student to check the accuracy of his work. New references and other changes have been made to keep the contents up to date, to improve the clarity of presentation, and to increase the usefulness of the book.

CONTENTS—Preface. Starting a Waterworks. Groundwater. Location, Maintenance, and Construction of Wells. Surface Water. Dams. Intakes, Aqueducts and Long Pipe Lines. Stresses in Pipe. Pumping Stations. Centrifugal and Other Pumps. Well Pumps. Materials for and the Design of Pipes. Valves, Gates, Hydrants, and Meters. Metallic Corrosion. Storage and Distributing Reservoirs. Design of Distribution Systems. Construction and Maintenance of Distribution Systems. Quality and Treatment of Water Supplies. Measures of the Quality of Water Supplies. Living Organisms in Water. Plain Sedimentation. Sedimentation with Coagulation. Sand Filtration. Water Softening for Public Water Supplies. Disinfection. Miscellaneous Methods of Water Treatment. Waterworks Management. Appendix.

EHLERS AND STEEL—Municipal and Rural Sanitation

By VICTOR M. EHLERS, Texas State Department of Health, and ERNEST W. STEEL, University of Texas. Fifth Edition.

581 *pp.*, 6 *x* 9, 155 *illus.* (1958)....$10.50*c*

This book is an attempt to place within one convenient volume the most important principles and practices of sanitation. The Fifth Edition takes account of the changes in the sanitary phase of public health which have taken place during the last decade as a result of the impact of technological developments. This is a text for public health engineers and sanitarians, and also for all other disciplines entering the public health field; at the same time, it is a reference work for municipal administrators, health officers and engineers.

CONTENTS—Introduction—(Public Health Work—Sanitation). Communicable Diseases. Principles of Excreta Disposal. Excreta Disposal without Water Carriage. Excreta Disposal with Water Carriage. Water—General Characteristics, Treatment and Protection. Plumbing. Public Bathing Place Sanitation. Refuse Sanitation. Insect Vector and Rodent Control. Disinfectants and Insecticides. Milk Sanitation. Food Sanitation. Ventilation and Air Conditioning. Light. Housing and Prevention of Accidents. Institutional Sanitation. Industrial Hygiene. Radiological Sanitation. Miscellaneous. Vital Statistics. Public Health Organizations. Appendix A. Instructions for Construction of a Pit Privy, Concrete Slab Type. B. Threshold Limit Values of Industrial Atmospheric Contaminants for 1955. C. Glossary of Radiological Health Terms. D. Maximum Permissible Amount of Radioisotope in Total Body and Maximum Permissible Concentration in Air and Water for Continuous Exposure (Oct. 1951). Index.

MAIER—Manual of Water Fluoridation Practice

By FRANZ J. MAIER, Sanitary Engineer, U.S. Public Health Service.

234 *pp.*, 6 *x* 9, 83 *illus.* (1963).....$8.50*i*

Few questions affecting the operation of public water supplies are as sensitive or as critical as the proposal to fluoridate. The spectacular protection it affords against tooth decay on the one hand, and the equally impressive fears it has inspired on the other, have combined to make this an explosive subject. As a result, the municipal official or water works man can expect to be pressured, questioned, and challenged from all sides, regardless of his stand on this idea. This book contains all the practical information anyone in this position needs to know about fluoridation—its history, efficacy, and safety; administrative, legal, and technical obstacles; chemical compounds, mechanical equipment, and process controls. Costs, alternative measures, and alleged harmful effects all are examined, and factual answers are given. The book includes an extensive bibliography, classified by subject, to permit citation of scientific reports answering completely the many allegations that fluorides are damaging to health. In addition a special chapter on defluoridation is included for the benefit of those whose water supplies naturally contain concentrations of fluorides in excess of the optimum amounts. The book will be valuable for water supply superintendents; engineers; medical, dental, and public health officials; municipal governing bodies; suppliers of chemicals and chemical food and control equipment; and interested citizens and parent groups.

McKINNEY—Microbiology for Sanitary Engineers

By Ross E. MCKINNEY, University of Kansas. *Series in San. Sc. & Water Resources Engg.*

312 *pp.*, 6 *x* 9, 198 *illus.* (1962).....$9.75*c*

Gives the sanitary engineer an understanding of fundamental microbiology and how microbiology affects the work of the engineer. Section one, used as a basic text on fundamental microbiology, covers a description of the various microorganisms of interest with a detailed discussion of their biochemistry. Thus the reader develops a clear understanding of how microorganisms affect the various systems with which the sanitary engineer works. The second, or the applied section, develops through water to liquid wastes to stream pollution to the various types of biological waste treatment systems, including trickling filters, activated sludge, aerobic digestion and oxidation ponds, to solid waste disposal to nuclear wastes to food and milk and to air pollution. Many ideas contained herein were derived from research and have not appeared in print before; the text presents certain concepts new to the field.

CONTENTS—Preface. FUNDAMENTAL MICROBIOLOGY. Sanitary Microbiology. Observations of Microorganisms. Bacteria. Fungi. Algae. Protozoa and Higher Animals. Enzymes. Metabolic Reactions. Energy. Synthesis. Growth. Death. Population Dynamics. Pathogenicity. APPLIED MICROBIOLOGY. Water. Liquid Wastes. Industrial Wastes. Stream Pollution. Theory of Biological Waste Treatment. Trickling Filter. Activated Sludge. Oxidation Ponds. Anaerobic Digestion. Refuse Disposal. Radioactivity. Milk and Food. Air Microbiology. Index.

BESSELIEVRE—Industrial Waste Treatment

By EDMUND B. BESSELIEVRE, The Dorr Company.

365 *pp.*, 6 *x* 9, *illus.* (1952).....$10.00*rL*

A practical guide for plant owners, managers, and engineers, giving a large body of data and essential working knowledge on how to deal with the problem of industrial wastes.

CONTENTS—What Constitutes a Waste Problem? Who Starts a Waste-treatment Problem? The First Steps to Take in the Solution. The Place of the Engineer or Specialist. Cooperation between Enforcing Agencies, Industrialist, and Technician. Factors in the Solution of a Waste Problem. The Interests Concerned in Industrial-waste Problems. Districts for Industrial-waste Treatment. Sampling and Analysis of Wastes. Combining Wastes from Several Plants to Reduce Costs. The Pollutional Effect of Various Wastes. Methods of Waste Treatment. Equipment for Waste Treatment and Its Selection. Coagulants and Chemicals. Handling Industrial Wastes in Municipal Systems and Charges Therefor. Factors in the Development of Low-cost Plants. Reuse of Wastes and Recovery of Values. Appendixes: Federal and State Laws Concerning the Treatment of Industrial Wastes. Miscellaneous Data. Glossary.

POWELL—Water Conditioning for Industry

By SHEPPARD T. POWELL, Consulting Engineer.

548 *pp.*, 6 *x* 9, 249 *illus.* (1954)....$13.50*i*

A modern guide to water conditioning, describing the various types of apparatus in detail, including design features, control required for efficient performance, cost of installation and operation, and giving the technical material and engineering data needed for selecting and applying best processes for particular industrial water-treatment needs.

CONTENTS—Natural Waters and Their Impurities. Removal of Suspended Solids by Settling without Chemical Coagulants. Chemical Coagulation—Theory. Application of Coagulants, Flocculation and Settling. Filtration. Cold-process Softening by Chemicals. Hot-process Softening by Chemicals. Softening and Demineralization by Ion-exchange Materials. Evaporators; Their Design and Operation. Deaeration of Feedwater. Internal Treatment by Chemicals—Theory. Equipment for Secondary Chemical Treatment. Water Conditioning for Recirculation Systems. Steam Contamination and Means for Correction. Determination of Steam Purity. Corrosion of Metals—Cause and Control. Corrosion Problems in High Pressure Boilers. Electrolytic Processes for Corrosion Control. Caustic Embrittlement of Boiler Steel. Boiler Scales and Their Identification. Chemical Cleaning of Power Plant Equipment. Deconcentration of Solids in Boiler Water. Miscellaneous Treatments. Analytical Procedures. Appendix.

THEROUX, ELDRIDGE, AND MALLMAN—Laboratory Manual for Chemical and Bacterial Analysis of Water and Sewage

By FRANK R. THEROUX, EDWARD F. ELDRIDGE, and W. LEROY MALLMANN, Michigan State University. Third Edition.

274 *pp.*, 5½ *x* 8, *illus.* (1943).....$5.95*c*

Provides the civil engineer with the procedures for all the usual tests made in the water and sewage plant laboratories as well as many special tests required for stream surveys and trade water analyses.

CONTENTS—PART ONE. CHEMICAL ANALYSIS OF WATER AND SEWAGE. Methods of Chemical Analysis. Chemical Analysis of Water, Sewage, Polluted Water, Boiled Waters, Preparation of Reagents and Standard Solutions. Stock Standard Solutions. Reagents and Standard Solutions. General Discussion of Chemistry and Related Topics. Chemistry and Discussion of Methods. Fundamentals of Chemistry. Standard Solutions. Alkalinity and Acidity. Coagulants and Coagulation. Water Hardness and Softening. Chemistry of Mineral Analysis. Chlorine, Nitrogen, Oxygen, Hydrogen Sulfide Determinations. Chemistry of Sludge Analysis. Industrial Waste Analysis. Analysis of Chemicals. Special Topics. Sampling. Laboratory Equipment. Formation and Treatment of Precipitates. Records. Tables. Apparatus and Chemicals. Atomic Weights. Molecular and Equivalent Weights. Chemical Equations. Conversion Factors. Metric System. Chemical Factors. Solubility of Oxygen in Fresh Water. PART TWO. BACTERIOLOGICAL ANALYSIS OF WATER AND SEWAGE. Sampling. Procedures. Procedures with Detailed Explanations. Outline of Procedures. Methods of Staining. Preparation of Mediums and Solutions. Sterilization. Filtration and pH. Preparation of Nutrient Media. Preparation of Solutions. General Discussion of Bacteriology. Purpose of Bacterial Analysis. Gas Formation. Aerobic Growth. Gram-negative, Non-spore-forming Bacilli. Colon Index. Counting of Agar Plates. Typing the Coliform Group Organisms. Procedure of Identification. Total Bacteria Count for Measuring Contamination. Bacteriological Laboratory Equipment.

Building Trades

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362 *pp.*, 6 *x* 9, *illus.* (1955).....$5.75*tL*†

A practical and easy-to-understand manual on planning and construction of all common types of concrete, concrete block, stucco, and similar structures. Beginning with the plans for a typical simple structure, the book explains step by step how to do each job of masonry work required—foundations, walls, floors, reinforcing, etc. Every planning and building operation shown has been tried in the field to make sure it is correct according to building code requirements, and is simple enough for the inexperienced mechanic or homeowner to do.

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do the best job at a minimum cost; stresses careful planning; and discusses many inexpensive, worthwhile new materials, such as new surface materials for walls and ceiling.

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By E. A. LAIR, State Supervisor of Trade and Industrial Education, Springfield, Illinois. Second Edition.

310 *pp.*, 6 *x* 9, 226 *illus.* (1953)....$7.35*t*†

Presents the essentials of practical carpentry for the building trades, including trade data, reference material, standard methods of construction, and *how-to-do-it information*. Explains construction used in the basementless house, the ranch-type house, picture windows, dry wall construction, flat-type roof construction, and new methods of insulation and ventilation. Many new building materials are treated.

CONTENTS—Framing. Rafter Framing. Roofing and Siding. Lath and Plastering. Finish, Trim, Windows, and Doors. Glass and Glazing. Insulation. Lumber, Grading, and Measuring. Scaffolds. Safety Measures. Blueprints and Specifications. Projects, Questions, and Problems.

MULLIGAN—Handbook of Brick Masonry Construction

By JOHN A. MULLIGAN.

526 *pp.*, 6 *x* 9, 163 *illus.* (1942)...$15.00*hb*

CONTENTS—Bricklaying. Concrete Masonry. Sand Concrete. Cement. Lime. Mortar. Joints. Bond. Brick. Common Brick. Firebrick. Face Brick. Testing Brickwork. Structural Terra Cotta and Hollow Tile. Composite Masonry. Sewer Pipe. Concrete Building Units. Cavity Walls. Brick Veneer. Backing of Ashlar Masonry. Cement Plaster and Pargeting. Stone Masonry. Limestone and Rubble Masonry. Architectural Terra Cotta. Weathering. Efflorescence and Stains. Glass-block Masonry. Window Calking. Underpinning with Brickwork. Brickwork for Boiler Setting. Fireplaces and Chimneys. Paving. Swimming Pools. Timbrel Arch Construction. Specifications.

WILSON—Practical House Carpentry

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By J. DOUGLAS WILSON.

360 *pp.*, 6 *x* 9, 255 *illus.* (1957)....$8.95*iL*

*McG-H Paperbacks Ed.**

A clear, practical guide to housebuilding—giving fundamentals and methods in a step-by-step, well-illustrated manner that beginners in carpentry can easily understand and follow. Gives each step in constructing a one-story house, from driving the first layout stake to installation of hardware. Includes methods for doing each carpentry job in foundation work, framing, exterior and interior finishing.

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WILSON AND WERNER—Simplified Roof Framing

By J. DOUGLAS WILSON, Los Angeles City Schools, and S. O. WERNER, University of California, Santa Barbara. Second Edition.

161 *pp.*, 5 *x* 8, 125 *illus.* (1948).....$4.40*v*

A manual of roof framing, sound and accurate enough for the professional carpenter, yet simple enough for the layman who is building his own home. Covers common types of roofs and how to lay out all types of rafters and gives clear-cut principles that enable the reader to do roof work without the use of mechanical drawing, geometry, and trigonometry.

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2,320 *pp.*, 6 *x* 9, 2,029 *illus.* (1958).....$25.00*hb*†

This handbook meets the demand for a comprehensive and authoritative reference work for mechanical engineers. Provides data constantly needed by engineers, machinists, designers, draftsmen, plant and shop employees in every branch of mechanical engineering. Arranged in handy reference form are answers to thousands of questions of every type—theory, standards, and practice—compiled by scores of specialists. Whether it is a question of a mathematical table or the compressive strength of an alloy—of solar energy for heating or of metal-working operations—or any of hundreds of others, common or uncommon—this handbook quickly gives the facts you require.

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By HOWARD P. KALLEN, Kallen & Lemelson, Consulting Engineers.

750 *pp.*, 6 *x* 9, 520 *illus.* (1961).....$15.00*hb*

Practical data on instrumentation and controls for mechanical services used in institutional and commercial buildings, and industrial plants are provided in this handbook. Reflecting modern advances in the field, it covers control system for high-pressure high-temperature steam power plants, controls for large central air conditioning systems, and other systems used in office buildings, hospitals, schools, and related commercial and institutional buildings. Included, too, is material on the selection of boiler controls, combustion controls, boiler flame-failure safeguards, and fundamentals of instrument system design. A complete source of quantitative data, the handbook is an excellent guide to the selection and application of instrumentation and controls. With numerous illustrations, tables, charts, and graphs, the book provides a thorough understanding of modern practices in control systems for the mechanical services.

CONTENTS—Introduction. Instrumentation and Control Fundamentals. Measurement of Pressure and Draft. Temperature Measurement. Measurement of Flow. Measurement and Control of Liquid Level. Final Control Elements. Measurement and Control of pH and Conductivity. Boiler Instrumentation and Control Systems. Steam-pressure Reducing and Desuperheating. Steam-turbine Instrumentation and Control. Diesel-engine Governing. Control of Heating and Air-Conditioning Systems.

Thermodynamics and Heat Power

NORRIS, THERKELSEN, AND TRENT—Applied Thermodynamics

Formerly *Heat Power*

By EARLE B. NORRIS, formerly Virginia Polytechnic Institute, ERIC THERKELSEN, and CLARENCE E. TRENT, Virginia Polytechnic Institute. Third Edition.

478 *pp.*, 6 *x* 9, *illus.* (1955).....$8.75*c*

Designed for persons engaged in all phases of engineering, this revision of Norris and Therkelsen's *Heat Power* facilitates the approach to a study of thermodynamics by familiarizing the reader with the actual machines at the same time he is being taught a specific group of heat laws. Profusely illustrated and including many problems, this is truly a comprehensive treatment of basic thermodynamics and heat engines.

CONTENTS—List of Symbols and Abbreviations. Introduction. The Internal-combustion Engine. Internal-combustion Engine Details. Fuels for Internal-combustion Engines. Principles of Combustion. Work and Power. Heat and Work. Analysis of Internal-combustion Engine Cycles. Actual Performance of Internal-combustion Engines. The Steam-power Plant. Steam. Steam-engine Performance. Improving Steam-engine Performance. Steam-engine Mechanism. The Steam Turbine. Condensing Equipment. Steam Boilers. Boiler Fuels and Furnaces. Boiler Accessories and Auxiliaries. Boiler Performance. Compressors. Refrigeration. Appendixes. Name Index. Subject Index.

Thermodynamics

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—Thermodynamic and Transport Properties of Gases, Liquids, and Solids

Sponsored by the Standing Committee on Thermophysical Properties, Heat Transfer Division, ASME.

472 *pp.*, 8½ *x* 11, 274 *illus.* (1959)..$12.50*r*

This volume gives facts, data, and information on the thermodynamic and transport properties of gases, liquids, and solids, and is of value in the design of heat exchangers, boilers, piping, refrigeration and gas processing equipment, and similar equipment. The book surveys the present theoretical and experimental state of the science, and also reports a large amount of data on experimental and theoretical techniques. These data cover thermodynamic and transport properties, PVT data and equation of state, some experimental transport properties, and high-temperature thermodynamic properties of gases. Originally presented as a group of technical papers at a Symposium on Thermal Properties, the book contains a great deal of heretofore unpublished material in the form of tables, charts, and graphs.

BROWN—Basic Thermodynamics

By CHARLES L. BROWN, Purdue University.

266 *pp.*, 6 *x* 9, 105 *illus.* (1951)....$6.95*c*

† *Textbook edition available at educational list price.*

A text for a one-semester course in thermodynamics for nonmechanics with emphasis on mechanical applications. Its purpose is to teach the first and second laws of thermodynamics and their applications to a study of the devices which convert heat into work, or use work to transport heat. It includes a short section on the elements of heat transmission as they relate to power generation and refrigeration. Formulas are reduced to a minimum, and the book makes use of detailed numerical examples involving complete analysis of many problems.

CONTENTS—Preface. Fundamentals. The First Law of Thermodynamics. Properties of Substances. The Second Law of Thermodynamics. Reversible Processes. The Perfect Gas. Heating and Cooling Devices. Compressors, Pumps, and Expanders. Vapor Power Cycles. Gas Power Cycles. Refrigeration. Nozzles. Mixtures of Perfect Gases and Vapors. Heat Transmission. Appendix. Index.

OBERT AND GAGGIOLO—Thermodynamics, 2nd Ed.

By EDWARD F. OBERT and RICHARD A. GAGGIOLI, Univ. of Wisconsin.

592 *pp.*, 6 *x* 9, 224 *illus.* (1963)....$9.95*c*

This book is written for undergraduate courses in mechanical engineering, covering either the fundamentals or the fundamentals and applications of thermodynamics. The book uses a mathematical approach consistent with the material already learned by the student in prerequisite mathematics courses. A true innovation of this edition is the exploitation of the concept of the function as an invaluable aid in the teaching and learning of thermodynamics. In particular, the true independent variables of the heat and work functions are pointed out, and in terms of these variables, the differentials of heat and work are then exact.

CONTENTS—*Preface. Terminology.* Survey of Dimensions and Units. Fundamental Concepts. Temperature and the Ideal Gas. The First Law and the Closed System. The First Law and the Dynamic Open System. The Reversible Process. The Second Law. Second and Third Law Topics. Properties of the Pure Substance. The *pvT* Relationships. The Ideal Gas and Mixture Relationships. Nonsteady Flow. Friction, and Availability. Fluid Flow. Psychrometrics. Vapor Cycles and Processes. Combustion. Gas Cycles and Processes. Refrigeration. *Appendix A:* Reference Material. *Appendix B:* Tables and Charts. *Index.*

OBERT—Concepts of Thermodynamics

By E. F. OBERT, The University of Wisconsin.

528 *pp.*, 6 *x* 9, 145 *illus.* (1960).....$11.00*c*

This modern approach to engineering thermodynamics emphasizes the fundamentals of the calculus and gives a physical significance to each function that underlies the symbol for a concept. Its theme is to make apparent the independent variables for the differential equations of thermodynamics. Sound mathematical structure is a primary aim; a rather complete section on the calculus and a survey of methods for solving the equations of thermodynamics are included. This material emphasizes definitions and bases derivations upon the fundamental definitions of the differentials.

CONTENTS—Preface. Terminology. Survey of Dimensions and Units. TO THE STUDENT. Fundamental Concepts. Temperature and the Ideal Gas. INTRODUCTION TO THE FIRST LAW. The First Law and the Closed System. The First Law and the Dynamic Open System. The Reversible Process. INTRODUCTION TO THE SECOND LAW. The Second Law. Second Law Topics. Properties of the Pure Substance. The *pvT* Relationships. General Thermodynamic Equations for Systems of Constant Chemical Composition. The Ideal Gas and Deviations of Real Gases. Mixtures. Equilibrium and the Third Law. Basic Flow Equations. Combustion. Appendix A. Prerequisites. Appendix B. Tables and Charts. Index.

OBERT AND YOUNG—Elements of Thermodynamics and Heat Transfer

By EDWARD F. OBERT, University of Wisconsin; and ROBERT L. YOUNG, University of Tennessee. Second Edition.

552 *pp.*, 6 *x* 9, 181 *illus.* (1962)....$9.50*c*

This revision has the same objective as before: To present a simple, yet rigorous, approach to the fundamentals of thermodynamics and heat transfer aimed directly at engineering applications. A clearly defined path is established: Definitions are emphasized first to form the foundation of the subject, and upon this foundation arises the First Law, the principle of reversibility, and then the Second and Third Laws. Upon this framework the secondary phases are based: The properties of real fluids and gases, the concept of the ideal gas, and the applications of thermodynamics.

CONTENTS—Survey of Dimensions and Units. Fundamental Concepts. Temperature and the Ideal Gas. INTRODUCTION TO THE FIRST LAW. The First Law and the Closed System. The First Law and the Dynamic Open System. The Reversible Process. INTRODUCTION TO THE SECOND LAW. The Second Law. Second and Third Law Topics. Properties of the Pure Substance. The *pvT* Relationships. The Ideal Gas and Deviations of Real Gases. Nonsteady Flow. Friction, and Availability. Psychrometrics. Vapor Cycles and Processes. Combustion. Gas Cycles and Processes. Refrigeration. INTRODUCTION TO HEAT TRANSFER. Fundamentals of Heat Transfer. Advanced Topics in Heat Transfer. APPENDIX A. Reference Material. APPENDIX B. Tables and Charts.

SABERSKY—Elements of Engineering Thermodynamics

By ROLF H. SABERSKY, California Institute of Technology. *Series in Mech. Engg.*

318 *pp.*, 6 *x* 9, *illus.* (1957).....$8.50*c*

A brief text for a first course in thermodynamics for majors. Principles are developed in a concise manner. In illustrating the applications of thermodynamics, the industries which at present employ the largest number of engineers were particularly considered. Problems, designed to stimulate student interest, form an essential part of the presentation.

CONTENTS—Introduction. The Oth Law and the Concept of Temperature. Dimensions and Units. Definitions and Terminology. The First Law of Thermodynamics. Special Processes of a Simple System. A System in Motion. The Second Law of Thermodynamics. Corollaries of the Second Law. Availability. The Properties of a Perfect Gas. Properties of a General Substance. Van Der Waals Gas. Cycles Using Gas as Working Substance. Cycles Using a Condensible Fluid as Working Substance. Some Economic Considerations Regarding Power Equipment. Some Jet Propulsion Cycles. The Flow of a Compressible Fluid. Some Simple Flow-measuring Devices. Some Special Phenomena in Compressible Flow. Flow Through a Nozzle. Elements of Turbine Design. Elements of Combustion.

SKROTZKI—Basic Thermodynamics

By BERNHARDT G. A. SKROTZKI, Associate Editor, POWER.

512 *pp.*, 6 *x* 9, 298 *illus.* (1963).....$8.50*c*

This clearly written text introduces the reader to the thermodynamics principles of "heat" machinery and systems. It covers the thermodynamics of: gas and steam type turbines and engines, refrigerating systems, compressed-gas systems, combustion; gas and vapor characteristics and mixtures; basic laws of thermodynamics, Carnot principle, system and engine cycles. It also includes a discussion of the kinetic molecular theory. Many illustrations and carefully plotted graphs aid the readers' understanding without resort to cumbersome and complex equations. Among the recent advances covered in the text: free-piston com-

pressors, combined power cycles, direct energy-conversion devices, a discussion of transient gas-flow characteristics.

SPALDING AND COLE—Engineering Thermodynamics

An Introductory Text

By D. B. SPALDING and E. H. COLE, both of City and Guilds College, Imperial College of Science and Technology, University of London. *Series in Mech. Engg.*

416 *pp.*, 6 *x* 9¾ (1959).....$8.95*cg*

This book provides a thorough introduction to the fundamentals of thermodynamics. It stresses fundamentals rather than applications, but demonstrates throughout the manner in which theory is based on helps to solve practical problems. The authors' approach to the subject is based largely on the work of J. H. Keenan. The book gives careful definitions of all terms used and includes many examples. There is a wide variety of end-of-chapter problems.

CONTENTS—Introductory Survey. Mechanical Units. Work. Temperature. Heat. The First Law of Thermodynamics. The Pure Substance. The First Law Applied to Steady-Flow Processes. Properties of Pure Substances. The Second Law of Thermodynamics. Reversibility. The Absolute Temperature Scale. Entropy. Ideal Gases. Gaseous Mixtures. Fuels and Combustion. Appendix A. End Notes. Appendix B. Steam Tables. Index.

TUVE—Mechanical Engineering Experimentation

By GEORGE LEWIS TUVE, Case Institute of Technology.

516 *pp.*, 6 *x* 9, 242 *illus.* (1961)....$8.50*c*

This textbook furnishes the reference material for any up to date course in Mechanical Engineering Laboratory. Its first purpose is to conserve the time of the student and the instructor by providing concise instructional material when and where needed. Early in the text the purposes, planning and instrumentation of experiments are considered in detail. The book indicates the methods of analysis leading to the prediction of results and their verification by experiment. The author consistently emphasizes the necessity for writing an engineering report on the project that will show its adequacy and indicate its value to all concerned.

CONTENTS—Preface. Purposes and Planning. Measurements: Their Accuracy and Usefulness. Reporting on Experimental Work. Mechanical Measurements and Computers. Electromechanical Measurements. Dynamics and Automatic Control. Properties of Fluids. Fluid Flow and Fluid Dynamics. The Transfer of Heat. Combustion and Fuels. Pumps and Compressors. Steam Power. Combustion-engine Power. Heating, Ventilating, Air Conditioning, and Refrigeration. APPENDIX. INDEX.

YOUNG AND YOUNG—Elementary Engineering Thermodynamics

By VINCENT W. YOUNG, University of Southern California, and GILBERT A. YOUNG. Third Edition.

268 *pp.*, 6 *x* 9, 95 *illus.* (1947).....$6.95*c*

Covers briefly and intensively the essential facts of engineering thermodynamics. Theory has been coordinated with practice by the introduction of line sketches which show the method of practical operation of internal-combustion engines, air compressors, steam engines, and turbines, together with brief explanations showing how the theoretical cycle is approximated in each apparatus.

CONTENTS—Introduction. General Laws and Equations. Thermodynamic Characteristics of Gases. Frictionless Nonflow Processes—Gas Systems. The Carnot Cycle—Entropy. Heat-engine Cycles—Gas Systems. Air Compression. Properties of Vapors—Vapor Tables. Frictionless Nonflow Processes for Vapors. Flow Processes for Gases and Vapors. Vapor Cycles. Refrigeration. Mixtures of Air and Water Vapor. Index.

Hydraulics

PIPPENGER AND HICKS—Industrial Hydraulics

By JOHN P. PIPPENGER, Racine Development Corp., and TYLER G. HICKS, Cooper Union School of Engineering.

368 *pp.*, 6 *x* 9, 483 *illus.* (1962).....$7.00*c*

This introductory test, written at the technician level, is aimed primarily at the beginner in the field of industrial hydraulics. Designed to provide a text for courses in fluid-power systems, the book proceeds, step-by-step, from the simplest types of systems and equipment to the more complex units used in today's modern industrial hydraulic systems. No prior knowledge of hydraulics is assumed, other than that given in a high school physics course. The text includes supplementary mathematics; both that peculiar to the industry and a thorough review of measurements applicable to power transmission. It covers a complete discussion of all the basic components, plus the methods of combining these components to create power transmission devices. Easily understood terms readily comprehensive to the beginner are used to develop the subject. New terms and components are thoroughly explained as they are introduced. Circuit symbols are introduced early in the text so that all circuit diagrams are easily followed. The text is carefully illustrated with detailed line drawings. American Standard Association symbols are used throughout: the latest Joint Industry Standard Symbols for industrial hydraulic equipment are illustrated and discussed.

CONTENTS—1. Fluid-power Systems. 2. Hydraulic Symbols. 3. Fluid-power Pumps and Motors. 4. Hydraulic Cylinders and Rams. 5. Fluid-power Plumbing. 6. Pressure Accumulators. 7. Fluid Reservoirs. 8. Filtration of Hydraulic Fluids. 9. Fluid Temperature Controls. 10. Pressure-control Valves. 11. Flow-control Valves. 12. Directional-control Valves. 13. Electrical Devices for Hydraulic Circuits. 14. Servo Systems. 15. Industrial Hydraulic Circuits.

Heat Transfer

BROWN AND MARCO—Introduction to Heat Transfer

By AUBREY I. BROWN and SALVATORE M. MARCO, The Ohio State University. Third Edition.

322 *pp.*, 6 *x* 9, 74 *illus.* (1958).....$7.95*c*

Presents the fundamentals of the subject in a manner readily understood by the average third or fourth year engineering student. The authors provide the student with a clear understanding of the principles of heat transfer, with a working knowledge of the application of these principles to a variety of engineering problems, and with a good foundation for advanced and more specialized studies in this field. In this third edition coverage has been enlarged and the material brought completely up to date.

CONTENTS—Preface. Nomenclature. Modes of Heat Transfer. Heat Transfer by Conduction. Equations for the Calculation of Heat Transfer. Radiation. Fundamental Units and Dimension Analysis. Fluid Flow in the Convection Process. Forced Convection. Free or Natural Convection. Heat Transfer to Boiling Liquids. Condensing Vapors. Over-all Transfer of Heat. Applications of the Principles of Heat Transfer to Design Problems. Transient Conduction. Graphical and Numerical Methods for Heat Conduction Problems. Appendix. Index.

ECKERT AND DRAKE—Heat and Mass Transfer

By E. R. G. ECKERT, University of Minnesota, and ROBERT M. DRAKE, JR., Princeton University. *Series in Mech. Engg.* Second Edition.

530 *pp.*, 6 *x* 9, 271 *illus.* (1959)....$12.50*c*

Second edition of *Introduction to the Transfer of Heat and Mass*. Clearly and concisely presents the basic physical processes involved in the transfer of heat and mass, and the analytical procedures developed for their description. These processes and procedures are treated in connection with selected important examples in such detail that the reader should be able to transfer them to new situations. This second edition devotes greater space to a discussion of heat conduction processes, and includes in the convection section new developments and exact boundary layer solutions.

CONTENTS—Preface. Nomenclature. Introduction. HEAT CONDUCTION. Theory of Heat Conduction and the Heat Conduction Equation. Steady Heat Conduction. Unsteady Heat Conduction. Heat Conduction with Moving Boundaries. HEAT TRANSFER BY CONVECTION. Flow Along Surfaces and in Channels. Forced Convection in Laminar Flow. Forced Convection in Turbulent Flow. Forced Convection in Separated Flow. Special Heat-transfer Processes. Free Convection, Condensation and Evaporation. THERMAL RADIATION. Thermal Radiation Properties. Heat Exchange by Radiation. THE EXCHANGE OF MASS. Relations for Two-component Mixtures. Mass Transfer. Heat Exchanger Calculations. Appendix. Index.

ECKERT—Introduction to Heat and Mass Transfer

By E. R. G. ECKERT, Univ. of Minnesota; translated by JOSEPH H. GROSS, The RAND Corporation. *Series in Mech. Engg.*

368 *pp.*, 6 *x* 9, 161 *illus.* (1963).....$9.95*c*

This book is written as a basic course in heat transfer. The three modes of heat transfer (conduction, convection, radiation) are discussed, and mass transfer processes are treated, using analogies to corresponding heat transfer situations. Main emphasis is on the physical processes involved. A limited number of heat transfer situations are therefore discussed in sufficient detail so that the student can follow the presentation easily, gain a clear understanding of the physical processes, and learn to apply this understanding to the analysis of many heat transfer situations which he will encounter in any engineering activity.

CONTENTS—*Preface.* The Fundamental Concepts of Heat Transfer. Heat Conduction. Heat Transfer by Convection. Thermal Radiation. Mass Transfer. *Appendix of Property Values*, by Robert M. Drake, Jr., Princeton University. *Index.*

GEBHART—Heat Transfer

By BENJAMIN GEBHART, Cornell University.

454 *pp.*, 6 *x* 9, 147 *illus.* (1961)....$11.50*c*

This senior level text and reference work contains a description of the more important physical processes, theories, and methods of analysis of heat transfer. Modern theories and measurements are emphasized. The basic theories and fundamental formulations of the three modes, conduction, radiation, and convection are presented, followed by phase change processes, combined mode analysis, exchanger design, and analogues. The physical nature of heat transfer processes and the significance of defined quantities are emphasized initially to provide a clear conceptual basis for subsequent developments. This text demonstrates the diverse and special considerations whereby general theoretical formulations, are adapted to particular applications.

CONTENTS—Introduction. The General Conduction Equations and Steady State Conduction. Unsteady State Conduction. Thermal Radiation Phenomena. Energy Exchange by Thermal Radiation. Fluid Flow Processes. Forced Convection. Convection with Body Forces. Heat Transfer with Liquid Vaporization. Heat Transfer with Vapor Condensation. Heat Transfer by Combined Mechanisms. Design Considerations. Experimental Analogues for the Solution of Heat Transfer Problems.

GRÖBER, ERK, AND GRIGULL—Fundamentals of Heat Transfer

Translated by Dr. JERZY MOSZYNSKI, Case Institute of Technology. *Series in Mech. Engg.* Third Edition.

527 *pp.*, 6 *x* 9, *illus.* (1961).....$15.00*c*

This is a translation of the third edition of the German classic in heat transfer, first published in 1933 and revised in 1955. This was the first textbook ever written on the subject of heat transfer. Apart from its value as a classic, the Third Edition, as rewritten by Dr. Grigull, covers all the fundamentals of the subject and gives a very thorough account of European research up until 1955. This translation includes additional topics (brief accounts of heat exchanger calculations, fins, radiant heat transfer networks), which are included for completeness. The bibliography has been augmented by the inclusion of important publications since 1955, and problems have been added.

CONTENTS—Translator's Foreword. Preface. Introduction. Mathematical Principles. Solution of Boundary Value Problems. Time-Dependent Temperature Fields without Heat Sources. Steady-State Temperature Fields with Heat Sources. Steady Temperature Fields with Heat Sources. Special Cases. Conduction in Rarefied Gases. The Motion of a Fluid and the Transport of Energy. Application of the Principle of Similarity to Heat Transfer. Heat Transfer by Forced Convection in Laminar Flow. Heat Transfer in Transverse Flow. Heat Transfer at High Velocities. Heat Transfer in Free Convection. Heat Transfer with Condensation. Heat Transfer During Evaporation. Mass Transfer. Blackbody Radiation. Radiant Heat Exchange between Solid Bodies. Radiation Behavior of Gases and Vapors. Appendix 1. Analysis of Radiant Heat Transfer by an Electric Resistance Analogue. 2. Heat Exchanger Calculations. 3. Some Properties of Bessel Functions. 4. Some Formulas of Vector Analysis. 5. Units, Conversion Tables, and Tables of Physical Properties.

HARTNETT—Recent Advances in Heat and Mass Transfer

Edited by J. P. HARTNETT, University of Delaware.

412 *pp.*, 6 *x* 9, 148 *illus.* (1961)....$10.50*c*

This book brings together under one cover a collection of the most important papers in Heat and Mass Transfer. All of the articles have appeared in various journals, magazines or symposia, and have gained wide recognition as outstanding contributions. This collection is of considerable value to all those actively involved in the use of heat transfer information. This volume gives the present state of knowledge in the field of Heat and Mass Transfer and is useful for heat transfer specialists in universities, government laboratories, industrial concerns, and as an auxiliary text for graduate courses in transfer processes.

CONTENTS—Contributions to the Theory of Heat Transfer through a Laminar Boundary Layer (M. J. Lighthill). Turbulent Boundary Layer in Compressible Fluids (E. R. Van Driest). Engineering Relations for Heat Transfer and Friction in High-Velocity Laminar and Turbulent Boundary-Layer Flow Over Surfaces with Constant Pressure and Temperature (E. R. G. Eckert). Similar Solutions for the Compressible Laminar Boundary Layer with Heat Transfer and Pressure Gradient (C. B. Cohen and E. Reshotko). Theory of Stagnation Point Heat Transfer in Dissociate Air (J. A. Fay and F. R. Riddell). Mass-Transfer Cooling in Laminar Boundary Layer with Constant Fluid Properties (J. P. Hartnett and E. R. G. Eckert). Convective Heat Transfer with

Mass Addition and Chemical Reactions (L. Lees). Mass Transfer to a Turbulent Fluid with and without Chemical Reaction (T. K. Sherwood and J. M. Ryan). The Principles of Turbulent Heat Transfer (H. Reichardt). Analysis of Turbulent Heat Transfer, Mass Transfer, and Friction in Smooth Tubes at High Prandtl and Schmidt Numbers (R. G. Deissler). Heat Transfer in a Pipe with Turbulent Flow and Arbitrary Wall-Temperature Distribution (C. A. Sleicher, Jr., and M. Tribus). Significance of Liquid-Film Coefficients in Gas Absorption (P. V. Danckwerts). Prediction of Pressure Drop During Forced-Circulation Boiling of Water (R. C. Martinelli and D. B. Nelson). A Method of Correlating Heat Transfer Data for Surface Boiling of Liquids (W. M. Rohsenow). The Variable Fluid-Property Problem in Free Convection (E. M. Sparrow and J. L. Gregg). Radiation Analysis by the Network Method (A. K. Oppenheim).

HOLMAN—Heat Transfer

By J. P. HOLMAN, Southern Methodist Univ.

384 *pp.*, 6 *x* 9, 137 *illus.* (1963).....$8.75*c*

A modern approach to heat transfer specifically written for the undergraduate course. All major topics are covered and separate presentations are given for conduction, convection, and radiation. The weight is on physical explanation of heat transfer phenomena, without neglecting the development of necessary mathematical problem-solving approaches. Empirical data is given simply and directly to reduce the possibility of confusing the student. Excellent problems and unusual interferometer photographs are included. The final chapter takes up mass transfer to emphasize the similarities between heat and mass transfer.

CONTENTS—Introduction. Steady State Conduction—One Dimension. Steady State Conduction—Two Dimensions. Unsteady State Heat Conduction. Principles of Convection. Empirical and Practical Relations for Forced Convection Heat Transfer. Natural Convection Systems. Radiation Heat Transfer. Condensation and Boiling Heat Transfer. Heat Exchangers. Mass Transfer. Appendix.

KAYS AND LONDON—Compact Heat Exchangers

A Summary of Basic Heat Transfer and Flow Friction Design Data

By WILLIAM M. KAYS, and ALEXANDER L. LONDON, both of Stanford University.

156 *pp.*, 6 *x* 9 (1958).....$6.00*c*

Now, in one volume, a comprehensive treatment of compact heat transfer surfaces, including all the types in use today. The authors summarize all the data in 22 reports issued since 1949 as the results of projects initiated by the Office of Naval Research. Supplementary data obtained as part of a single project at the USN Engineering Experiment Station in Annapolis are included as well as data of other investigations in areas of interest not covered by the ONR or Engineering Experiment Station Projects.

CONTENTS—Introduction. Heat Exchanger Analysis—Heat Transfer and Flow Friction. Effects of Temperature Dependent Fluid Properties. Abrupt Contraction and Expansion Pressure Loss Coefficients. Analytical Solutions for Flow in Tubes. Summaries of Analysis and Experiment for Simple Geometries. Experimental Methods. Heat Transfer Surface Geometry, Heat Transfer and Flow Friction Design Data. APPENDIX. Properties of Air, Water, Air-Water Vapor Mixture, and Combustion Products. Examples of Heat Exchanger Performance Calculations. Derivation of Effectiveness—NTU Relations.

STANFORD RESEARCH INSTITUTE—International Symposium on High Temperature Technology

By CHARLES A. SCARLOTT, editor; Arranged by Stanford Research Institute, Menlo Park, California.

348 *pp.*, 8½ *x* 11, *over* 240 *illus.* (1960) $15.00*r*

Important findings of high temperature research—their applications—and their potentials—are brought together in this book. Among the major areas covered are techniques and measurements—materials—processes—behavior of materials—research abroad—and others. Many specific topics are discussed in detail such as image furnace research; high intensity electrical charges; refractory metals; materials and techniques for thermal transfer and accommodation; high pressure methods; high temperature and chemical synthesis; and thermoelectric power. This authoritative book provides a concise account of the progress in the many fields of high temperature research both in the United States and abroad.

CONTENTS—TECHNIQUES AND MEASUREMENTS. Image Furnace Research. Experiments with High Intensity Electric Discharges. The Accuracy and Precision of Measuring Temperatures above 1000°K. Measurement of Flux, Emittance, and Related Properties. The Interaction of High Temperature Air with Materials During Re-entry. MATERIALS. Refractory Metals. Oxides for High Temperature Applications. Graphite, Carbide, Nitride and Sulfide Refractories. Silicides, Borides, Aluminides, Intermetallics and Other Unique Refractories. Materials and Techniques for Thermal Transfer and Accommodation. PROCESSES. High Pressure Methods. Condensed State Reactions and Phase Equilibria. Fused Salt Chemistry. Pyrometallurgy. High Temperature Chemical Synthesis. BEHAVIOR OF MATERIALS. Mechanical Property Behavior of Metals at Elevated Temperatures. Thermoelectric Power. Mass Spectrometry Applied to High Temperature Chemistry. RESEARCH ABROAD. High Temperature Research in the United Kingdom. Recent French Contributions to High Temperature Research. High Temperature Research Activity in Germany. High Temperature Research in Japan. On the High Temperature Research in Scandinavia. DISCUSSION. Comments on the Activities of the IUPAC Commission on High Temperatures and Refractories. Answers to Questions by Speakers and Discussion of Papers by Attendees.

STOEVER—Applied Heat Transmission

By HERMAN J. STOEVER, Iowa State College.

266 *pp.*, 6 *x* 9, 115 *illus.* (1941).....$6.95*r*

Gives the information required to solve the ordinary heat transfer problems that arise in practice, in understandable form. The book illustrates the use of this information by applying it to the solution of a number of numerical problems. Also familiarizes the student with the construction and fields of application of the ordinary types of heat transfer equipment used in industry and with commonly used industrial insulating materials and methods of applying them.

CONTENTS—Conduction. Radiation. Convection. Convection Coefficients. Calculation of Pressure Drop. Types of Industrial Heat-transfer Equipment. Insulation.

WILSON—Industrial Thermal Insulation

By A. C. WILSON, Owens-Corning Fiberglas Corporation.

295 *pp.*, 6 *x* 9, *illus.* (1959).....$9.00*i*

Treats the subject of insulation for piping, equipment and structures used by industry in the temperature ranges above the boiling point and below the freezing point of water. The result is a concise and practical guide to all phases of heat insulation used in industry today. The tremendous advances made in the science of insulation for both high and low temperatures during the last half-century are considered—including the latest materials used, such as fibrous and cellular glass products, hydrous calcium silicate, and foamed plastics. Covers also theory and mathematics of heat transfer, actual application methods—including a number of complete specifications—and much helpful technical data.

Pumps

HICKS—Pump Operation and Maintenance

By TYLER G. HICKS, Mechanical Engineer; Cooper Union School of Engineering.

310 *pp.*, 6 *x* 9, 386 *illus.* (1958)....$9.50*iL*

Shows plant operating and management personnel how to operate and maintain pumps used in industrial, municipal, central-station, marine, institutional, and similar installations. Every major class and type of pump is covered, with specific instructions for installing, starting up, routine operation, periodic maintenance, and major overhaul. The approach is practical throughout, to help engineers, foremen, and mechanics operate pumping installations in an economical and efficient manner.

HICKS—Pump Selection and Application

By TYLER HICKS, Mechanical Engineer; Cooper Union School of Engineering.

432 *pp.*, 6 *x* 9, 411 *illus.* (1957)...$11.00*iL*

A guide to help engineers—in all fields using pumps—to get more economy and efficiency from their installation. Besides discussing the basic types of pumps and problems met in their application, the book devotes a chapter to each of a number of industries, including power-plant services, nuclear-energy applications, processing industries, water supply, heating, irrigation, and mining construction. Pumping problems peculiar to each industry are comprehensively covered, with step-by-step procedures for analyzing a pumping problem, finding the most suitable commercial pump for the job, and applying this pump to the job conditions. Many illustrative examples are included.

CONTENTS—PUMP CLASSES AND TYPES. Centrifugal Pumps. Rotary Pumps. Reciprocating Pumps. PUMP SELECTION. Head on a Pump. Pump Capacity. Liquid Handled. Piping Systems. Drives for Industrial Pumps. Pump Selection. Pumping-system Economics. PUMP APPLICATION. Power-plant Services. Nuclear-energy Applications. Petroleum Industry. Chemical Industries. Paper, Textiles, and Rubber. Food Processing and Handling. Water Supply. Sewage and Pump Services. Air Conditioning and Heating. Irrigation and Flood Control. Mining and Construction. Marine Services. Industrial Hydraulic and Vacuum Pumps. Iron, Steel, and Other Industries.

KARASSIK AND CARTER—Centrifugal Pumps

Selection, Operation, and Maintenance

By IGOR KARASSIK and the late ROY CARTER, Worthington Corporation.

480 *pp.*, 7⅛ *x* 10, 575 *illus.* (1960).$15.75*iL*

A comprehensive reference book for users of pumps throughout industry. Component parts, pump drivers, performance characteristics, system-head curves, controls, and priming are discussed from the point of view of the buyer and user of pumping equipment. Covers the entire field of centrifugal pumps, their appurtenances and controls. Describes and thoroughly illustrates all types of pumps, including vertical, self-priming, and regenerative. Also discusses pumps for various areas of industrial service. This book will be of everyday use to anyone concerned with moving liquids or gases in bulk.

CONTENTS—FOREWORD. SECTION I. PUMP TYPES AND CONSTRUCTION. 1. Classification and Nomenclature. 2. Casings and Diffusers. 3. Multistage Pump Casings. 4. Impellers and Wearing Rings. 5. Axial Thrust in Single- and Multistage Pumps. 6. Hydraulic Balancing Devices. 7. Shafts and Shaft Sleeves. 8. Stuffing Boxes. 9. Mechanical Seals. 10. Condensate Injection Sealing. 11. Bearings. 12. Couplings. 13. Bedplates and Other Pump Supports. 14. Special Designs: Vertical Pumps. 15. Special Designs: Self-priming Pumps. 16. Materials of Construction. SECTION II. PUMP PERFORMANCE. 17. Heads. Conditions of Service, Performance Characteristics. 18. System-head Curves. SECTION III. CONTROLS, DRIVERS, AND PRIMING. 19. Controls. 20. Drivers. 21. Priming. SECTION IV. SERVICES AND SELECTION OF PUMPS. 22. Services. 23. Preparing Centrifugal Pump Inquiries. SECTION V. INSTALLATION, OPERATION, AND MAINTENANCE. 24. Installation. 25. Operation. 26. Maintenance. 27. Operating Problems. DATA SECTION. INDEX.

KRISTAL AND ANNETT—Pumps

Types, Selection, Installation, Operation, and Maintenance

By FRANK A. KRISTAL, Mechanical Engineer, and F. A. ANNETT, Contributing Editor, *Power*. Second Edition.

373 *pp.*, 6 *x* 9, 217 *illus.* (1953)....$10.00*i*

The A B C's of pumps of many types and designs—a complete practical treatment that explains what kinds are available, how to select and install them, how to operate and maintain them, and how to locate and remedy pump troubles. Pump performance features and service limitations are fully and clearly explained. A major portion of the book is devoted to description of all types of pumps, such as reciprocating, centrifugal, propeller, and rotary.

CONTENTS—Reciprocating Pumps. Volute-type Centrifugal Pumps. Diffuser-type Centrifugal Pumps. Turbine Pumps. Propeller Pumps. Rotary Pumps. Deep-well Pumps. Boiler-feed Pumps. Sewage and Sludge Pumps. Sanitary Pumps. Variable-displacement and Proportioning Pumps. Priming of Pumps. What Is Head on a Pump? Economical Pipe Size for Pumps. Pump Operation. Pump Selection. Installation, and Operation. Centrifugal-pump Troubles and Remedies.

PUMP SELECTION AND OPERATION LIBRARY $29.95*r*

Hicks—Pump Selection and Application
Hicks—Pump Operation and Maintenance
Karassik—Centrifugal Pumps

Combustion and Fuels

GENERAL ELECTRIC COMPANY—Properties of Combustion Gases—System C_nH_{2n}—Air

Two Volumes

1104 *pp.*, 11 *x* 8½, *illus.* (1956). Not sold separately $37.50*i*

Comprised wholly of tables with brief introductory text, these volumes will provide an accurate knowledge of the thermodynamic properties and behavior of the working fluid of the air-breathing combustion engines, under all operating conditions, and will contribute to a fuller realization of the performance levels which are becoming practicable for air-breathing jet propulsion systems. The tables are applicable to the combustion gases of any fuel with a hydrogen to carbon ratio of two. Should prove of value to those engaged in combustion research, development of gas turbines and turbojet engines, in aircraft and missile propulsion studies, and to chemical companies engaged in the high-temperature, high-speed synthesis of materials from combustion-type reactors.

Volume I—Thermodynamic Properties

Contains 45 pages of introductory material and lists in English units, the function: enthalpy, entropy, mean molecular weight, density, sonic velocity (on both equilibrium and frozen composition bases), heat capacity and two nonideality coefficients. The independent variable grid is: Temperature from 600° to 5000°R in 100°R increments; pressure, from 0.01 to 30 atm. in 22 increments on a quasi-logarithmic scale; equivalence ratio, from 0.25 to 4.0 in 15 increments, approximately adjusted to the degree of non-ideality. The source data are

taken from the National Bureau of Standards —American Petroleum Institute Publications. Volume II—Chemical Composition of Equilibrium Mixtures

Lists the equilibrium chemical composition of the mixtures in terms of the molfractions for temperatures above 2500°R on the same grid of independent variable which is used in Volume I. The following species are considered: A, Cs (graphite), CO, CO_2, H_2O, O_2, N_2, H, O, N, NO, OH, CH_4, NH_3. All molfractions greater than 10^{-9} are listed. In addition, Volume II contains tabulations of the enthalpy, Gibbs free energy, entropy, and heat capacity functions of the above pure species in 100°R increments in the range 600 to 5000°R.

GRISWOLD—Fuels, Combustion, and Furnaces

By JOHN GRISWOLD, University of Texas. *Series in Chem. Engg.*

496 *pp.*, 6 *x* 9, 195 *illus.* (1946)....$11.50*c*

A lucid treatment of the broad essentials and the more important specific details of the technology, combustion properties, and utilization of fuels, including the equipment used. Also provides an introduction to petroleum refining technology and engineering, chemical engineering thermodynamics, chemical kinetics technology and utilization of refractories, and to the process industries that use furnaces and heaters.

CONTENTS—Coal and Coke. Petroleum and Natural Gas. Mixture Properties of Petroleum Fractions. Combustion Stoichiometry. Temperature, Enthalpy, and Heat of Combustion. Equilibrium of Kinetics. Part 1. Thermodynamic Equilibrium. Part 2. Chemical Kinetics. The Combustion Process. Part 1. Mechanism of Reactions. Part 2. Engineering Properties. Manufactured Gas. Gas Burners. Oil Burners. Stokers and Pulverized Coal Burners. Introductory Heat Transmission. Furnace Refractories. Firebox and Chimney Considerations. Tube Heaters. Process Furnaces and Kilns. Appendix of Data. List of Visual Aids. Index.

SMITH AND STINSON—Fuels and Combustion

By MARION L. SMITH, and KARL W. STINSON, Ohio State University.

340 *pp.*, 6 *x* 9, 170 *illus.* (1952)....$8.95*c*

Written to present to undergraduate engineering students, and to practicing engineers, fundamental and factual information concerning solid, liquid, and gaseous fuels and the problems associated with their combustion. The general topics of fuel technology and the relation of air, fuel, combustion products, and the heat released are included. These topics help the student to understand better the problems involved in the application of combustion to furnaces, heaters, oil and gas burners, reciprocating internal-combustion engines, gas turbines, and rockets. Fundamental concepts of modern theories of oxidation are presented in such a way that they will be understandable to students who are not chemistry majors.

CONTENTS—Preface. Fuels. Stoichiometric Analysis. Thermochemical Analysis. The Process of Combustion. Physical Properties of Fuels. Gas and Oil Burners. Coal-burning Equipment. Combustion in Engines. Index.

VULIS—Thermal Regimes of Combustion

By LEV ABRAMOVICH VULIS, Kazakh State University, U.S.S.R. Literal Translation from the Russian by MORRIS D. FRIEDMAN. Translating Editor, GLENN C. WILLIAMS, Massachusetts Institute of Technology.

315 *pp.*, 6 *x* 9, 104 *illus.* (1961).....$7.95*c*

The author is concerned with a theoretical treatment of combustion in steady-state processes in which the relative roles of rates of heat and mass transport and chemical reaction respond to changes in temperature so as to exhibit phenomena of ignition, extinction, and instability. An attempt is made to relate quantitatively the theoretical analyses to engineering problems. Extensive use is made of simplified physical models and of graphic representation of the results of computations based on the theory. The results of the analysis are illustrated by abundant graphical presentations.

CONTENTS—INTRODUCTION. Preliminary Remarks. Simplest Information on Reaction Rates. The N. N. Semenov Theory of the "Thermal Explosion" of a Combustible Mixture. Ignition Temperature. STATIONARY COMBUSTION REGION OF A WELL-MIXED MIXTURE. Heat-balance Equation for an Adiabatic Process. Investigation of Stationary States. Critical Ignition and Extinction Conditions. Quantitative Relations. HETEROGENEOUS AND DIFFUSIONAL COMBUSTION CONCEPTS. Basic Representations of the Heterogeneous Process. Thermal Region of Coal Combustion. Certain Additional Relations. General Case of Adiabatic Combustion. COMPLEX HEAT EXCHANGE. Process with Heat Supply. On Radiant Heat Transfer. Process with Heat Loss. Influence of Heat Emission on Critical Conditions. Remark on Discontinuous Oscillations. EXAMPLES OF A COMPUTATION WITH THE ONE-DIMENSIONAL DIAGRAM. Simplest Examples of Burn-up Curves. Schematic Computation of a Muffle Burner. Optimum Thermal Regime of a Burner. Relation between the Zero-dimensional and One-dimensional Models. Flame Propagation. NORMAL COMBUSTION. Flame Propagation Rate. Similarity of Temperature and Concentration Fields. Theory of I. B. Zel'dovich on Normal Flame Propagation. On Local Redistribution of the Total Energy in the Flame Zone. Laminar Combustion of Unmixed Gases. ELEMENTS OF COMBUSTION GAS DYNAMICS. The L. D. Landau Theory of Flame Self-turbulization. Turbulent Motion and Gas Combustion. Gas Motion with Heat Supply. Stationary Propagation of Detonation. BIBLIOGRAPHY. INDEX.

Diesel Engines

MALEEV—Diesel Engine Operation and Maintenance

By VLADIMIR L. MALEEV, deceased.

504 *pp.*, 6 *x* 9, 357 *illus.* (1954).....$6.50*v*

Presents the information needed to understand, operate, maintain, and repair diesel engines. It discusses the diesel engine principle in the introduction, describes components in part two, discusses operation fundamentals in parts three and four, and maintenance procedures in part five. Aimed at the technician rather than the engineer, it treats all types of diesel engines and includes sound trouble-shooting procedures.

CONTENTS—INTRODUCTION. General Description and Construction. Diesel-engine Principles. DIESEL-ENGINE COMPONENTS. Frames, Cylinders, and Heads. Running Gear. Bearings. Flywheels. Valve Gear. Fuel Injection. Governors. FUNDAMENTALS OF DIESEL ENGINE WORK. Fuels and Combustion. Fuel System. Lubrication and Lubricants. Engine Lubrication. Engine Cooling. Air-intake System. Exhaust System. Starting and Reversing Methods. Vibrations and Balancing. ENGINE INSTALLATION AND OPERATION. Engine Installation. Operating a Diesel Engine. Engine Performance. Rating and Testing. MAINTENANCE AND REPAIRS. Maintenance Records and Data. Engine Overhauling. Special Repairs and Salvaging. APPENDIX. Glossary of Terms Used in Diesel Engineering. List of Visual Aids. Index.

Internal Combustion Engines

LICHTY—Internal Combustion Engines

By LESTER C. LICHTY, Yale University. Sixth Edition.

583 *pp.*, 6 *x* 9, 468 *illus.* (1951).....$9.95*c*

The text is outstanding because of its strong underlying thermodynamic treatment for the various energy processes. In all cases, the

analysis starts with Energy Equation for the process. New charts for the solution of compression processes, steady-flow-burner processes, and gas-turbine processes with leaner than chemically correct air-fuel mixtures simplify the work appreciably and make it possible to teach a more extensive course in the usual time.

CONTENTS—The Internal Combustion Engine Process. Thermodynamics for Engine Analysis. The Combustion Process. Air-standard Cycle Analysis. Internal-combustion Engine Process Analysis. Deviations from Ideal Processes. Fuels. Combustion Knock and Knock Rating. Carburetion and Fuel Injection. Manifolds and Mixture Distribution. Valves and Valve Mechanisms. Ignition of the Charge. Combustion-chamber Design. Engine Lubrication. Heat Transfer and Engine Cooling. Engine Performance. Mechanics of Principal Moving Parts. Engine Vibration and Balance. Engine Design. Appendix. Index.

MALEEV—Internal Combustion Engines
Theory of Design
By V. L. MALEEV, formerly Oklahoma Agricultural and Mechanical College. Second Edition.
636 *pp.*, 5½ *x* 8½, 494 *illus.* (1945)..$9.95*c*

Gives a general foundation for the proper understanding of the principles involved in the design and operation of internal-combustion engines, with particular attention to the trend toward high speed engines. The text analyzes conditions and means of economical utilization of the heat of combustion.

CONTENTS—Introduction. Principles of Thermodynamics. Fuels. Combustion. Theoretical Engine Cycles. Handling of Gas Fuels. Handling of Volatile Liquid Fuels. Combustion in Spark-ignition Engines. Handling of Fuel Oils. Combustion in Compression-ignition Engines. Compression-ignition Chambers. Engine Performance. Four-stroke Spark-ignition Engines. Four-stroke Compression-ignition Engines. Two-stroke Engines. Engine Efficiencies. Engine Design. Four-stroke Intake and Exhaust. Supercharging. Two-stroke Exhaust and Scavenging. Cooling. Cylinders—Cylinder Heads. Framework. Reciprocating-rotary Motion. Vibration and Balancing. Lubrication. Running Gear. Crankshafts. Flywheels and Governors. Starting—Reversing. Rating and Testing. Gas Turbines.

ROGOWSKI—Elements of Internal Combustion Engines
By A. R. ROGOWSKI, Massachusetts Institute of Technology.
234 *pp.*, 6 *x* 9, 120 *illus.* (1953)....$6.95*c*

Designed to teach the elements of internal combustion engine theory to students of mechanical engineering in a one-term course. It is intended for the student who desires a knowledge of the factors involved in the safe and efficient operation of various types of internal-combustion engines, but who does not plan to become an engine specialist. The approach consists of a study of the effects of engine operating conditions on the physical and chemical processes occurring within the engine.

CONTENTS—Introduction. Physical Principles. The Air-cycle Approximation. The Actual Engine Cycle. Engine Friction. Detonation. Air Capacity. Fuel-air-ratio Requirements. Carburetors. Spark Ignition. Heat Rejection and Cooling. Compression-ignition Engines. Two-stroke Engines. Performance and Supercharging.

Turbo Machinery

CHURCH—Steam Turbines
By EDWIN F. CHURCH, Polytechnic Institute of Brooklyn. Third Edition.
531 *pp.*, 6 *x* 9, *illus.* (1950).....$10.50*c*

Gives special attention to applications of thermodynamic theory to the determination of the principal dimensions of the steam path through the turbine—the design of nozzles and blades that will meet specified performance requirements of output and efficiency. It also treats the application of aerodynamic principles, the characteristics of high-speed fluid flow, the effects of vibration and methods of balancing, and the principles of output control by governing.

CONTENTS—Preface. Tables. Symbols. Types and Characteristics. Steam-turbine Cycles. Flow of Steam in Nozzles. Nozzle Proportions and Tests. Impulse-blading Velocity Diagrams. Impulse-blading Proportions. Reaction-blading Velocity Diagrams and Blading Proportions. Effects of Use, Capacity, Speed, and Steam Conditions on the Arrangement of Turbine Elements. Aerodynamic Considerations. Elements of Supersonic Flow. Vibrations. Structural Elements, Materials, and Stresses. Losses. Efficiency, Reheat Factor, and Condition Line. Output Variation and Governing. Turbine Performance. Design. Problems. References. Index.

CSANADAY—Theory of Turbomachines
By GABRIEL T. CSANADAY, Univ. of Waterloo, Waterloo, Ontario. *Series in Mech. Engg.*
In Press

An advanced text for Mechanical and Aeronautical Engineers presenting a unified treatment of turbomachine principles. Emphasis is on a thorough understanding of the physical phenomena that underlie this class of machines. Detailed design data of a single machine and calculation techniques are not included, though many references to more advanced work are given. The text moves from a "black box" approach to the turbomachine to increasingly sophisticated considerations of machine action, concluding with such details as boundary layers on blades and annulus walls.

CONTENTS—Performance Characteristics. Compressible Fluids and Thermodynamic Principles. Momentum and Energy Relations for Fluid Masses. The Energy Transfer in the Turbomachine. Cascade Mechanics. Thin Aerofoil Theory. Inviscid Flow in Three Dimensions. Boundary Layers. Appendices.

JENNINGS AND ROGERS—Gas Turbines
Analysis and Practice
By B. H. JENNINGS and WILLARD L. ROGERS, Northwestern University.
487 *pp.*, 6 *x* 9, 200 *illus.* (1953)....$10.50*c*

Presents a broad coverage of the operating characteristics, industrial scope, and position that the gas turbine now holds and will further develop over coming years. The book approaches the subject after developing a sound background of engineering fundamentals. It then applies these to specific components of the gas turbine power plant.

CONTENTS—Preface. Development of the Internal-combustion Engine and Turbine. Thermodynamics and Air Properties. Gas-turbine Cycles and Thermodynamic Analyses. Gas Turbine Types and Design Features. Axial-flow Compressors. Centrifugal and Displacement Compressors. Aircraft Propulsion and Jet Engines. Power Plant and Transportation Turbine Units. Fuels, Combustion, and Combustion Chambers. Stresses in Turbine-plant Elements. Vibration and Balancing. Materials and Metallursgy. Appendix. Index.

LEE—The Theory and Design of Steam and Gas Turbines
By JOHN F. LEE, North Carolina State College.
502 *pp.*, 6 *x* 9, *illus.* (1954).....$11.50*c*

A complete, fundamental treatment presenting the modern theory of turbine flow passage design in a manner understandable to mechanical engineers who may not have a background in aerodynamics or gas dynamics. The theory is described, examined, and explained, and is related to design applications wherever possible. Descriptive matter is introduced only where necessary to establish physical concepts. Dimensional analysis and dimensionless performance parameters are freely used.

CONTENTS—Steam-turbine Types. Gas-turbine Types. Fundamentals of Thermodynamics. Steam-turbine Cycles. Gas-turbine Cycles. Elementary Gas Dynamics. Design of Nozzles. Energy Interchanges in Fluid Machinery. Design of Turbine Flow Passages. Mechanical Aspects of Turbine Design. Steam-turbine Control and Performance. The Centrifugal Compressor. The Axial-flow Compressor. Combustion. The Regenerator. The Gas-turbine Power Plant. Appendix: Gas and Steam Tables. Index.

VINCENT—The Theory and Design of Gas Turbines and Jet Engines

By E. T. VINCENT, University of Michigan.
606 *pp.*, 6 *x* 9, 331 *illus.* (1950) $10.75*c*

Effectively combining fundamental theory and practice, by including practical application of the theory in the field of gas turbines to specific design problems. Subject approached along realistic lines consistent with actual design practice. Offers a number of solved problems, typical of those encountered in practice as well as others to be solved by the student.

CONTENTS—Thermodynamic Principles. Fundamentals of Gas Flow. Jet Propulsion. Power Plant Cycles. Jet Propulsive Devices. The Turbine Power Plant. Performance Characteristics. Typical Power Plants. Fundamentals of Rotating Machines. The Centrifugal Compressor. Design of Centrifugal Compressors. The Axial Flow Compressor. Design of Axial Compressors. Turbine Theory, Turbine Design. Combustion Chambers, Fuel Systems and Fuels. Materials. Regenerators. Index.

Power Plants

GAFFERT—Steam Power Stations

By GUSTAV A. GAFFERT. Fourth Edition.
630 *pp.*, 6 *x* 9, 432 *illus.* (1952) $10.50*c*

Covers arrangement of machinery, progress in design characteristics, and conventional steam power plant general arrangements. It also reviews performance, costs, and trends toward unit plant construction, and the more efficient cycles (including reheat). It includes tables of reference, sample calculations, sections of machinery, and typical station cycles.

CONTENTS—Preface. List of Tables. Introduction. Equipment of a Power Station. Steam Engines. Steam Turbines. Heat Transfer. Condensers. Feed-water Heaters and Evaporators. Feed-water Treatment. Fuels and Combustion. Steam-generating Units. High-pressure and Binary-cycle Boilers. Dust Collectors. Economizers and Air Heaters. Superheaters and Reheaters. Fuel-burning Equipment. Ductwork and Piping. Draft System. Coal and Ash Handling. Pumping Equipment. Steam-station Costs. Load Curves and Plant Location. Selection of Prime Movers and Steam-generating Equipment. Cycle Arrangement. Binary Vapor Cycles. Station Design. Index.

PINCUS—Practical Boiler Water Treatment
Including Air Conditioning Systems

By LEO I. PINCUS, Water Service Laboratories, Inc.
272 *pp.*, 5⅜ *x* 8¼, *illus.* (1962) $8.00*i*

A practical guide for engineers, executives, and operating personnel, providing answers to hundreds of questions on water treatment—from the basic chemistry of water and its impurities, to determining capacity, blowdown, and makeup; from various ways water is used in cooling system equipment, to methods for detecting faulty operating conditions. The book details a complete blueprint for efficient water treatment in meeting specific conditions of low-pressure heating boilers, high-pressure boilers, and air-conditioning systems. Provides today's best methods for making water tests . . . easy-to-follow instructions for building and installing various chemical feeding devices . . . practical techniques for such boiler water troubles as scale deposits, corrosion, caustic embrittlement . . . and much more. Includes over 100 illustrations and tables—from trouble shooting charts, to photographs of modern equipment—from cooling system diagrams, to boiler water treatment control records.

CONTENTS—The Chemistry of Water. The Chemical Examination of Water. Water Tests. A Blueprint for Efficient Water Treatment. Practical Ways of Finding Capacity, Blowdown, and Makeup. Simple Chemical Feeds for Small and Moderate-sized Plants. Boiler Water Troubles. Water Treatment for Low-pressure Heating Boilers. Internal Treatment for High-pressure Boilers. Water in Air-conditioning Systems. Water Treatment for Air-conditioning Systems. Index.

SHIELDS—Boilers
Types, Characteristics, and Functions

By CARL D. SHIELDS, Consulting Engineer.
566 *pp.*, 7⅛ *x* 10, *illus.* (1961) $15.00*i*

A practical engineering approach to boilers and their selection, application, and performance. Contains a wealth of data for buying, designing, selling, specifying, installing, operating, and maintaining all types of boilers for heat or power use. The book covers every aspect of boilers, including classification, construction, design, cost considerations, fuels, heat recovery, insulation, condemnation, accidents, and much more. Special terminology of the boiler industry is fully explained. Hundreds of photographs, charts, drawings, and tables make every point clearer. Those concerned daily with heat and power problems will find this handbook an indispensable working tool.

CONTENTS—FOREWORD. INTRODUCTION. SECTION I—BOILER CLASSIFICATION. 1. Boiler Types. 2. Steel Firetube Boilers. 3. Steel Watertube Boilers. 4. Steel Shell Boilers. 5. Cast-Iron Boilers. 6. Positive Circulation Boilers. 7. Thermal Liquid Heaters and Vaporizers. 8. Marine Boilers. 9. Waste Heat Boilers. 10. Water Heaters. 11. Miscellaneous Boilers. SECTION II—BOILER DESIGN. 12. Boiler Design Principles. 13. Boiler Furnace and Fireside Design. 14. Boiler Circulation and Waterside Design. 15. Boiler Blowdown and Steam Purification. 16. Super-heaters, Reheaters, and Attemperators. 17. Economizers and Air Heaters. SECTION III—STEAM GENERATING EQUIPMENT. 18. Packaged Boilers. 19. Central Station Steam Generators. 20. Tapping Stations. 21. Nuclear Power. SECTION IV—BOILER CONSTRUCTION. 22. Steam Boiler Manufacture. 23. Boiler Erection. 24. Boiler Settings. 25. Firing Equipment. 26. Boiler Auxiliaries. SECTION V—INDUSTRY REGULATION. 27. Codes and Standards. 28. Boiler Ratings. 29. Boiler Inspection. SECTION VI—INDUSTRY STATUS. 30. Boiler Performance. 31. Boiler Comparisons. 32. Industry Trends. INDEX.

SWIFT—Steam Power Plants
Starting, Testing, and Operation

By CHARLES DONALD SWIFT, Mechanical Engineer, Ebasco Services, Inc.
490 *pp.*, 6 *x* 9, 95 *illus.* (1959) $14.75*i*

Follows a steam plant from the design and construction stage through the steps preparatory to starting, organizing personnel and facilities, starting up of the new plant for the first time, development of operating procedures, and arranging test routines needed to keep the plant up to top economy. It describes the types of turbines, boilers, auxiliaries, electrical apparatus, water-treating equipment, and techniques which must be understood to follow the steps for organizing the plant. Covers all classes of steam boilers and steam electric plants, and explains the operation of various pieces of power plant apparatus and how they are tied together into a complete operating power plant.

CONTENTS—Design and Purchase. Construction. Plant Personnel. General Plan for Initial Starting and Testing. Plant Operation. Plant Maintenance. Fuel Supply. Boilers. Boiler Auxiliaries. Boiler Plant Operation. Water Supply and Treatment System. Cooling Towers and Ponds. Condensers and Their Auxiliaries. Turbo-generators and Auxiliaries. Electrical System. Instru-

ments. Automatic Control Equipment. Preliminary Performance Checks. Acceptance Tests. Economy Tests.

SKROTZKI AND VOPAT—Power Station Engineering and Economy
Second Edition of Applied Energy Conversion
By BERNHARDT G. A. SKROTZKI, Associate Editor, *Power;* and WILLIAM A. VOPAT, The Cooper Union School of Engineering.
751 *pp.*, 6 x 9 (1960).....$12.50*c*
Like its predecessor, this book emphasizes principles of operation rather than minute details of design of equipment. It examines the power plant from the raw energy input to the rotating-shaft energy output, and treats the engineering of equipment used and the economics of design and operation. It studies the complete plant as an integrated engineering system. This revision is completely up to date and outlines the elements of a power generating system, as represented by the wide variety of today's power plants, with more depth and wider scope.
CONTENTS—Preface. ENERGY PROCESSING. Raw Energy. Combustion. Energy Cycles. Heat Transfer and Fluid Friction. STEAM POWER PLANTS. Fuel-bed Firing. Suspension Firing. Steam Generators. Superheaters, Reheaters, Economizers, and Air Heaters. Draft Systems. Fuel and Ash Handling. Dust Collection. Steam Prime Movers. Condensers. Feedwater Heaters and Evaporators. Power-station Pumps. Power-station Piping Elements and Heat Balance. Water Conditioning. Cooling-Water Supply. Station Controls. Supercritical-pressure Steam Stations. Nuclear Power Stations. INTERNAL-COMBUSTION PLANTS. Internal-combustion Engines. Internal-combustion Plants. Gas Turbines. HYDRO AND METEOROLOGICAL PLANTS. Water Power and Hydraulic Structures. Hydraulic Turbines. Hydro Power Stations. Energy-source Developments. The General Economic Problem. Load Curves. Selection of Plant. Station Performance and Operation Characteristics. Specific Economic Energy Problems. Energy Rates. Appendix. Index.

CROFT—Steam Boilers
Edited by TERRELL CROFT. Revised by R. B. PURDY.
417 *pp.*, 5½ x 8, *illus.* (1937)....$11.00*iL*
Covers the functions of boilers, types, codes and inspection regulations, elements of steam boiler construction, boiler accessories, steam generation and super-heating, boiler capacities, boiler ratings, and boiler-room economy.

ELONKA—Plant Operators' Manual
By STEVE ELONKA, *Power.*
292 *pp.*, 6⅝ x 9¾, 1539 *illus.* (1956).$8.50*i*
Shows engineers, firemen, oilers, and mechanics how to maintain and operate their equipment. Gives methods and pointers to help not only in daily work but also in future upgrading and license examinations. Progressive photos, drawings, and diagrams take you step by step through each job on boilers, engines, turbines, pumps, compressors, and similar equipment. Practical help on jobs ranging from how to start a diesel engine to winding springs.
CONTENTS—Boilers. Steam Turbines. Shop Work. Pumps. Air Compressor Systems. Air Conditioning, Cooling. Bearings, Oil Grooving. Leather Belting. Measuring Combustion. Steam Condensers. Diesel Engines. Electricity. Refrigeration. Fire Fighting. Fuel Oil. Fuel Gas. Seals, Gaskets. Seals, Packing. Mechanized Seals. Centrifuges. Steam-reducing Valves. Vacuum Systems. Water Hammer. Hard Surfacing. Welding. Index.

HIGGINS—Boiler Room Questions and Answers
By ALEX HIGGINS, Licensed Chief Engineer.
139 *pp.*, 9 x 12, 184 *illus.* (1945)....$7.00*i*
A practical book giving the operating engineer an exceptionally clear and simple presentation of the principles of design, construction, and operation of steam boilers and their accessories.
CONTENTS—Boiler Regulations and Methods of Study. Boilers: Safety, Definitions, Fire-tube Types. Watertube Boilers—Figuring Surface. Construction Materials and Details—Heat Treatments and Processes. The Mechanics of Materials and Some Details of Boiler Construction. Stays, Stay Bolts, and Boiler Calculations. Steam Gauges and Water Columns. Safety Valves, Water-level Alarms, Fusible Plugs. Boiler Feed and Blowoff Accessories, Valves. Boiler Construction, Cleaning, and Inspection. Boiler Foundations and Erection. Some Typical Boiler Repairs. Some Important Fuel Facts. Fuel-gas Analysis: Method and Meaning. Fuel and Gas (Continued)—Facts about Draft. Draft and Its Control. Hand Firing and Stoker Firing. Facts about Pulverized Fuel, Gas, Oil, and Combustion. Boiler Feed-water Heating and Treatment (Part I). Boiler Feed-water Heating and Treatment (Part II). Heat Facts, Laws, and Problems. How to Use Steam Tables. Injectors and Pumps. Pumping Problems. Pipe and Piping Accessories. Piping Layout and Calculation. Index.

SPRING—Boiler Operator's Guide
By HARRY M. SPRING, JR., Consulting Engineer.
353 *pp.*, 6 x 9, 241 *illus.* (1940).....$8.50*i*
A thorough, practical manual of steam boiler operation and maintenance, for the aid of steam engineers, inspectors, and those preparing to pass license examinations. Gives sound foundational knowledge through explanation of the problems of design, then describes construction and characteristics of all types of steam boilers and methods of installing, operating, and maintaining them. Includes 310 questions, with answers, typical of those asked on license examinations.
CONTENTS—General Construction and Stress Calculations. Fire-tube Boilers. Watertube Boilers (Straight Tube). Watertube Boilers (Bent Tube). Watertube Boilers (Bent Tube)—Special Service and European. Boiler Appliances and Auxiliaries. Boiler-plant Management. Problems of Plant Operation. Index.

WOODRUFF AND LAMMERS—Steam Plant Operation
By EVERETT B. WOODRUFF, The Drackett Company, and H. B. LAMMERS, Coal Producers Committee for Smoke Abatement.
Second Edition.
531 *pp.*, 6 x 9, *illus.* (1950).....$10.00*i*
Gives a working knowledge of the fundamental principles of stationary engineering; a practical manual of power plant practice. Describes boilers, combustion equipment, steam turbines, and auxiliaries, as well as operation and maintenance of this equipment. It emphasizes plant operation and maintenance rather than design, and explains and solves practical power plant problems without the use of advanced mathematics.
CONTENTS—Construction of Boilers. Combustion of Fuels. Settings, Combustion Equipment, and Heating Surfaces. Boiler Accessories. Operation and Maintenance of Steam Boilers. Pumps. Reciprocating Steam Engines. Valve-operating Mechanism. Operation and Maintenance of Steam Engines. Construction of Steam Turbines and Auxiliaries. Operating and Maintaining Turbines and Auxiliaries. Auxiliary Steam-plant Equipment. Appendix. Useful Data. Arithmetic. Definitions. Steam Tables and Charts. Calculation of the Stayed Area of the Heads of Horizontal Return Tubular Boilers. Index.

Unfired Pressure Vessels

CHUSE—Unfired Pressure Vessels
The ASME Code Simplified
By ROBERT CHUSE. Fourth Edition.
144 *pp.*, 6 x 9, *illus.* (1960).....$8.75*i*
Revised, enlarged, and updated to cover current changes in Section VIII (Unfired Pres-

sure Vessels) and Section IX (Welding Qualifications) of the Code, the new fourth edition of this practical manual presents complex vessel requirements and specifications at a glance. Contains 66 tables, charts, and diagrams designed to give complete, accurate Code calculations in a matter of minutes. The book simplifies the work of designing, building, ordering, repairing and inspecting pressure vessels. In addition, it outlines and clarifies problems in shell thickness, material classification and identification, openings and reinforced openings, testing procedures, inspection and stamping, welded repair methods, workflow schedules, mill orders, warehouse orders and shop organization.

CONTENTS—Origin, Development, Jurisdiction of the Code. Descriptive Guide to the Code. Design for Safety. Inspection and Quality Control. Welding. Appendix Tables and Diagrams. Bibliography.

Mechanical Engineering Laboratory

DOOLITTLE—Mechanical Engineering Laboratory

Instrumentation and Application

By J. S. DOOLITTLE, North Carolina State College.

389 *pp.*, 6 *x* 9, 200 *illus.* (1957).....$7.95*c*

Presents to the engineering student the various types of instruments available for making measurements. The uses and limitations of these instruments are stressed, as well as the care which must be used in installing the instruments to obtain correct measurements. Some work is given in the use of test codes, particularly as regards the properties of fuels and lubricants.

CONTENTS—Introduction. Pressure Measurements. Temperature Measurements. Area Measurements. Speed Measurements. Weight and Volume Measurements. Power Measurements. Determination of State of Vapors. Humidity Determinations. Analysis of Products of Combustion. DETERMINATION OF SELECTED PHYSICAL AND CHEMICAL PROPERTIES OF FUELS AND LUBRICANTS. Selected Properties of Solid Fuels. Selected Properties of Liquid Fuels and Lubricants. Heating Value of Fuels. ENGINEERING EXPERIMENTATION. The Engineering Test. Analysis of Data. The Engineering Report. Fluid Flow and Its Measurement. Fluid-flow Friction. Heat Transfer.

SCHENCK—Theories of Engineering Experimentation

By HILBERT SCHENCK, JR., Clarkson College of Technology.

239 *pp.*, 6 *x* 9, 72 *illus.* (1961).....$7.50*c*

A basic text and reference for all laboratory courses or experimental testing in Mechanical, Electrical, and Civil Engineering Departments. The book covers the theoretical, analytic, and statistical aspects of basic engineering experimentation. Specifically, it deals with such topics as statistics of instrument error, the propagation of such error, the selection of instruments based on error-study, and the choice of proper settings for test equipment to minimize uncertainty and error. Discussions of dimensional analysis, test point spacing, and replication, and suppression of extraneous variable effects using Graeco-Latin square test plans are included. Various means of locating uncertainty or error in existing data are considered. The final section of the book is devoted to fundamental ways in which test data can be analyzed, the major subdivision here being statistical, graphical, and mathematical in character.

CONTENTS—Experimentation as a Subject for Study. The Nature of Experimental Error and Uncertainty. Error and Uncertainty in Complete Experiments. Reduction of Variables—Dimensional Analysis. Test Sequence and Experimental Plans. Test Data Checking and Rejection. Statistical Data Analysis. Graphical Data Analysis. Mathematical Data Analysis. Appendix. Index.

SHOOP AND TUVE—Mechanical Engineering Practice

A Laboratory Reference Text

By CHARLES F. SHOOP, formerly University of Minnesota, and GEORGE L. TUVE, Case Institute of Technology. Fifth Edition.

471 *pp.*, 6 *x* 9, 218 *illus.* (1956).....$8.00*c*

An excellent laboratory reference text for the engineering student and a sound reference book for the practicing engineer. Measurement of technical and economic performance of machines and equipment is presented as a major engineering assignment.

CONTENTS—Suggested Lists of Experiments for Laboratory Courses. Introduction—Report Writing. Mechanical Measurements—Methods and Instruments. Electromechanical Measurements. Characteristics of Automatic Controls. Oils, Friction, and Lubrication. The Transfer of Heat. Measurement of Properties of Fluids. Fluid Flow and Fluid Dynamics. Pumps and Compressors. Combustion and Fuels. Steam Power Generation. Heating, Ventilating, and Air Conditioning. Refrigeration and Cooling. Internal-combustion Engines. APPENDIX. Circumferences and Areas of Circles. Conversion Factors. Pipe Fittings. Standard Dimensions for Wrought-iron and Wrought-steel Pipe. Thermal Properties of Steam. Mollier Diagram for Steam. Index.

Heating, Air Conditioning and Refrigeration

ALLEN, WALKER, AND JAMES—Heating and Air Conditioning

By JOHN R. ALLEN, JAMES HERBERT WALKER, and JOHN WILLIAM JAMES, McDonnell and Miller, Inc., Chicago, Illinois.

667 *pp.*, 6 *x* 9, 330 *illus.* (1946).....$9.95*c*

A comprehensive treatment of heating and air conditioning systems. The book discusses the theory underlying heating and air conditioning engineering, covers the development of working methods of design, and includes detailed charts and tables.

CONTENTS—Heat and the Properties of Steam and Air. Heat Losses from Buildings. Methods of Heating. Gravity Warm-air Furnace Heating. Radiators, Convectors, and Unit Heaters. Fuels and Boilers. Steam Heating Systems. Pipes, Fittings, Valves, and Accessories. Steam Piping. Hot-water Heating Systems. Automatic Control. Central and District Heating—Electric Heating. Air and Its Properties. Principles of Air Conditioning. Ventilating and Air-conditioning Systems. Fans, Filters, Washers, and Coils. The Transmission and Distribution of Air. Cooling and Dehumidifying Apparatus. The Cooling and Dehumidifying Load. The Design of an Air-conditioning System. Residence Air Conditioning. Unit Air Conditioners. Industrial Air Conditioning. Index.

BURKHARDT—Domestic and Commercial Oil Burners

Installation and Servicing

By CHARLES H. BURKHARDT, New England Fuel Institute. Second Edition.

405 *pp.*, 6 *x* 9, 360 *illus.* (1961)....$9.00*r*†

Provides technical data, and practical techniques for installing and servicing the basic types of domestic and commercial oil burners. Covers advances in the design and servicing of domestic and commercial burners, as well as controls, including electro-magnetic, mechanical, and electronic types. Provides easy-to-use charts for troubleshooting and servicing, and simple

† *Textbook edition available at educational list price.*

methods of calculating heat loss, and boiler and burner sizes. Includes a comprehensive list of related manufacturers' manuals and film strips.

CONTENTS—Domestic Oil Burners and Their Methods of Preparing Fuel for Combustion. High-pressure Gun-type Burners. Low-pressure Atomizing Burners. Commercial Oil Burners. Rotary Burners. Vaporizing Burners. Determining the Gallon-per-hour Rate of the Oil Burner. Short Methods of Calculating Gallon-per-hour Rates for Conversion Installations. Combustion Chambers. Installation of Tanks and Piping. Automatic Oil-burner Controls. Installing the Thermostat. Installing the Limit Control. Installing the Primary Control. Control Systems: Steam. Control Systems: Hot Water. Control Systems: Warm Air. Control Systems for Vaporizing Burners. Zone Control. Adjusting for Higher Combustion Efficiency (CO_2 and Stack Temperature) Adjusting for Higher Combustion Efficiency (Draft) Firing the New Oil Burner. Servicing Nozzle Problems. Servicing Ignition Problems. Servicing Pump and Pressure Regulating Valves. Combustion Problems. Excessive Fuel-oil Consumption. Servicing Vaporizing Pot-type Burners and Low-pressure Gun-type Burners. Servicing the Commercial Low-pressure Gun-type Burner. Servicing Vertical Rotary Wall-flame Burners. Basic Oil-burner Service Methods.

BURKHARDT—Residential and Commercial Air Conditioning

By CHARLES H. BURKHARDT, New England Fuel Institute.

324 *pp.*, 6 *x* 9, 314 *illus.* (1959).....$9.50*i*

A practical manual on the sizing, installation, and servicing of commercial and residential air conditioners. Explains the theory of refrigeration and air conditioning, and provides step-by-step methods for calculating heat gains; sizing the cooling system; and installing, operating, servicing, and troubleshooting the unit, its components, and controls. Compressors, condensers, expansion valves, cooling towers, and other components are fully covered, with many installation diagrams and a unique chart method for service procedure. Included in the book are alternate methods for sizing direct expansion or chilled water systems, and modern aspects of absorption cooling, air-cooled condensers, and other advances.

ELONKA AND MINICH—Standard Refrigeration and Air Conditioning Questions and Answers

By STEVE ELONKA, *Power* Magazine; and QUAID W. MINICH, Vahlsing, Inc.

245 *pp.*, 5⅜ *x* 8, *illus.* (1961).....$7.95*i*

Presenting working information in question-and-answer form, this practical book helps building, marine, and industrial personnel operate and maintain refrigeration and air conditioning plants efficiently. Gives fundamentals, methods, and data to help not only in daily work, but also to prepare for city, state, or Federal refrigeration license examination . . . as well as civil-service positions. Special section provides a complete listing of license requirements for operators in the United States as well as in Canada. Every important phase of the field is covered—from basic types of refrigeration systems, refrigerants, and compressors, through sizing piping for a system, methods of defrosting, and figuring heat loads, to troubleshooting, and details of safety devices. Emphasis is on practical information that can be applied in all areas of the field . . . including how to operate a large industrial plant for top efficiency. In addition, this guide covers modern developments in the fast growing field of cryogenics, as well as in absorption systems, centrifugal compressors, refrigerants, and much more.

CONTENTS—Fundamentals. Refrigeration Systems. Refrigerants. Compressors. Condensers. Evaporators. Refrigerant Controls. Electrical Controls. Piping and Fittings. Lubrication and Seals. Defrosting. Compressor and Motor Drives. Calculations and Terms. Operation, Servicing, Troubleshooting. Applications. Cooling Towers. Air Conditioning. Cooling Water and Brines. Safety. Cryogenics. License Requirements.

EMERICK—Heating Handbook

A Manual of Codes, Standards, and Methods By ROBERT HENDERSON EMERICK, Consulting Mechanical Engineer.

In Press

A useful guide to good practice and to the many regulatory codes and standards that govern space heating. Covers the entire field from the storage of fuels to the ultimate control of smoke and air pollution. Includes all types of fuels and heating systems, and gives practical advice on conversion from one method of heating to another, and on periodic or annual shutdown and reactivation. Not only covers such hardware as furnaces, pipes, chimneys, and insulation, but also includes such "software" as rating systems, contracts, codes, and standards. Case studies are provided to illustrate and application of principles.

CONTENTS—Nature of Codes and Procedures. Handling and Storage of Solid Fuels, Fuel Oils, and Gas Fuels. Heating Boilers. Warm Air Furnaces. Fuel Burning Equipment. Chimneys, Stacks, and Breechings. Safety for Boiler and Furnace Rooms. Pipe, Valves, and Fittings. Radiation. Unit Heaters. Steam and Hot Water Heating Systems. Domestic Water Heaters. Warm Air Ducts. Registers, Grilles, and Diffusers. Unit and System Controls. Electric Heating. Insulation. Fireplaces. Incinerators. Converting Gravity Hot Water to Forced Circulation. Converting Steam Systems to Forced Circulation Hot Water. Converting Gravity Warm Air to Fan Circulation. District Steam Heating. Humidity Control. Seasonal Lay-ups and System Reactivations. Heating Service Contracts. Smoke and Nuisance Control. A Suggested Code for Heating Installations.

HAINES—Automatic Control of Heating and Air Conditioning

By JOHN E. HAINES, Vice President, Minneapolis-Honeywell Regulator Company. Second Edition.

389 *pp.*, 6 *x* 9, 357 *illus.* (1961).....$11.75*i*

Thoroughly covers the basic principles of the *automatic control* of heating and air conditioning. Includes practical suggestions on and numerous typical examples of the application of controls to heating, ventilating, and air-conditioning systems. Explains and illustrates the basic problems of automatic control in the heating and air-conditioning field and the principles applied in solving these problems. This second edition has been broadly revised to illustrate and discuss today's methods of applying automatic controls to heating, ventilating, refrigeration, and air-conditioning.

CONTENTS—Fundamentals of Control. Definitions. Fundamentals of Measurement. Electric-control Circuits. Electric-control Units. Electronic-control Circuits. Electronic-control Units. Pneumatic-control Circuits. Pneumatic-control Units. Control of Residential Heating. Control of Mechanical Refrigeration. Control of Residential Air Conditioning. Zone Control —Commercial Heating. Control of Unit Heaters and Unit Ventilators. Control of Commercial Central-fan Heating Systems. Control of Commercial Central-fan Cooling Systems. Control of Peripheral Air-conditioning Units. Control of Radiant-panel Heating.

HARRIS—Modern Air Conditioning Practice

By NORMAN C. HARRIS, University of Michigan.

376 *pp.*, 6 *x* 9, 195 *illus.* (1959).....$6.75*c*

A one-semester text primarily for technical institutes and junior colleges. The text covers theory and practice; it includes basic physics,

psychrometry, load calculations, refrigeration theory, summer and winter air conditioning system design and the work of the sales engineer. Evaporative cooling is treated from an engineering standpoint.

CONTENTS—Introduction. Review of Basic Principles. Heat and Change of State. Heat Transfer. Properties of Air—Psychrometry. The Psychrometric Chart. Air and Human Comfort. Air Conditioning Load Analysis. Load Calculations. Equipment Selections. Air Conditioning Systems. Fundamentals of Mechanical Refrigeration. Refrigerating System Equipment. The Heat Pump. Air Distribution. Control Systems. Evaporative Cooling.

NELSON—Commercial and Industrial Refrigeration

By C. WESLEY NELSON, Wentworth Institute, Boston.

465 *pp.*, 6 *x* 9, 244 *illus.* (1952).....$7.00*v*

A simple, clear, systematic explanation of the installation and servicing of commercial and industrial refrigeration. Primarily for students of refrigeration, servicemen and prospective servicemen, and others with limited mathematical and technical knowledge who may be interested in the subject. The elementary theory and principles presented apply to refrigeration in general, but the book is not a text in pure refrigeration theory.

CONTENTS—Basic Principles. Refrigerants. Refrigerant Tables. The Compression System. Evaporators. Compressors. Condensers, Receivers, and Accessories. Refrigerant Control Valves. Motors Electrical Controls. Installation. Multiple Unit Installations. Low Temperature Refrigeration. Service Analysis and Operations. Air Conditioning Fundamentals. Air Conditioning Equipment. Air Conditioning Installation and Service. Load Calculations and Equipment Selection.

SPARKS AND DiILIO—Mechanical Refrigeration

By N. R. SPARKS and C. C. DiILIO, both of The Pennsylvania State University. Second Edition.

276 *pp.*, 6 *x* 9, 103 *illus.* (1959)....$8.25*c*

This senior-level text which presents the theoretical thermodynamic background and practical applications in the field of refrigeration will also serve as a reference book for practicing engineers who would like a review of fundamentals and recent applications. The emphasis is on the thermodynamic study of the many possible systems. Recent advances include: air refrigeration as used in aircraft cooling, and heat pump applications other than for comfort heating. Each chapter contains illustrative examples and serialized-type problems.

CONTENTS—Introduction. Basic Thermodynamics. Principles of Refrigeration. Air Refrigeration Systems. Vapor Refrigeration Systems. Compound Vapor Compression Systems. Refrigerant Compressors. Solid Carbon Dioxide. Multiple Evaporator Systems. Absorption Refrigeration Systems. Refrigeration in Air Conditioning. Water Vapor Refrigerating System. Heat Pumps. Appendix.

STOECKER—Refrigeration and Air Conditioning

By W. F. STOECKER, University of Illinois. *Series in Mech. Engg.*

397 *pp.*, 6 *x* 9 (1958).....$9.50*c*

A step forward in the analytical treatments of refrigeration and air conditioning, this book emphasizes the modern concept of the subject as a synthesis of the fundamentals of thermodynamics, heat transfer, and fluid mechanics. The commercially important vapor-compression cycle is pointed up, but special types of refrigeration systems are treated concisely. Principles of heat transfer are incorporated to analyze the performance of actual equipment. A unified treatment of heat- and mass-transfer explains the characteristics of heat-transfer devices used for air conditioning.

CONTENTS—Preface. Applications of Refrigeration and Air Conditioning. Methods of Refrigeration. The Vapor-compression Cycle. Multipressure Systems. Compressors. Water-cooled and Air-cooled Condensers. Expansion Devices. Evaporators. Refrigerants. The Complete Vapor-compression System. Absorption Refrigeration. Air-cycle Refrigeration. Steam-jet Refrigeration. Low-temperature Refrigeration. Heat Pumps. Psychrometry. Enthalpy Potential. Cooling Towers and Evaporative Condensers. Cooling and Dehumidifying Coils. Spray Equipment. Air-conditioning Calculations. Calculating the Cooling Load. Piping and Accessories. Answers to Problems. Appendix. Index.

Mechanical Design

PHELAN—Fundamentals of Mechanical Design

By RICHARD M. PHELAN, Cornell University. *Series in Mech. Engg.* Second Edition.

591 *pp.*, 6 *x* 9, 576 *illus.* (1962).....$10.95*c*

Starting where the study of mechanics ends, this book introduces the student to engineering in the real world with real materials and accompanying problems that cannot be treated in an exact manner. Material is integrated from mechanisms, kinematics, dynamics of machinery, and design of machine elements. This integrated treatment is a most efficient and logical manner of teaching design. It is logical since student and reader see design as a whole; the end product is always in view and the means to the end is kept in proper perspective.

CONTENTS—Preface. Introductory Definitions. Linkages. Motion in Machines. Velocity and Acceleration Analysis. Cams. Fundamentals of Dimension Determination. Castings and Weldments. Mechanical Fasteners. Springs. Translation or Power Screws. Couplings. Clutches and Other Intermittent-motion Mechanisms. Brakes. Belt and Rope Drives. Chain Drives. Gears. Gear Trains. Variable-speed Drives, and Differential Mechanisms. Bearings and Lubrication. Vibrations in Machinery. Appendix: A: Bending Formulas. B: Properties of Cross Sections. C: Values of $d^4/16$ and $\pi d^4/32$. D: Mechanical Properties of Materials. E: Mechanical Properties of Heat-treated Steels. F: Decimal Equivalents of Fractions. G: Partial List of NEMA Standards for Horsepowers, Speeds, Frame Numbers, and Dimensions for Open-type, Polyphase Squirrel-cage General-purpose Induction Motors. Problems. Index.

Mechanism and Kinematics

BEGGS—Mechanism

By JOSEPH STILES BEGGS, Hughes Aircraft Company, Culver City, California. *Series in Mech. Engg.*

418 *pp.*, 6 *x* 9, 422 *illus.* (1955).....$8.95*c*

Written for practicing engineers and for courses in advanced kinematics. The author was greatly influenced in his choice of notation and the use of the canonical vector equations of relative velocity and acceleration by Taylor's *Engineering Mechanics*. The advantage of this method is that it offers an almost standard approach to the analysis of mechanism, and as a result the reader rapidly gains facility in solving complex problems in mechanism. *Problems in Mechanism* available from Technical Book Company, 253 South Spring Street, Los Angeles 12, California.

CONTENTS—Notation and Convention. Introduction. Position, Velocity, and Acceleration. Gears. Cams. Rotary Drives. Linkages. Tension and Flexural Links. Compression Links—Fluids. Computing Mechanisms. The Control of Mechanisms. Special Topics. Newtonian Mechanics of Rigid Bodies. A Repertory of Mechanism. Appendix A: Inventions and Patents. Appendix B: Placing the Decimal Point in Slide-rule Calculations. Glossary. Bibliography. Index.

BEYER—Kinematic Synthesis of Mechanisms
By RUDOLF A. BEYER. Translated by HERBERT KUENZEL, Univ. of Alabama.
364 *pp.*, 6 *x* 9¼ (1963).....$12.50*rd*
A translation of a German work deriving from a series of lectures given by Dr. Beyer. It describes the work done over the last seventy years by German and other European scientists in the field of kinematic synthesis. As such, it is one of the first works available in English dealing with mechanism synthesis. Demonstrating the logic of mechanism synthesis, its approach is based upon the geometry of motion and the treatment is both analytical and geometrical. Useful as a senior-graduate level text or reference for professional designers in industry, the background value of the book in the field of kinematics—both analytic and synthetic—is unsurpassed.

FAIRES—Kinematics
By VIRGIL MORING FAIRES, United States Naval Postgraduate School.
468 *pp.*, 6 *x* 9, 489 *illus.* (1959).....$9.50*c*
This book discusses those subjects in the science of motion that are of most general interest to engineers, stressing the significance of numerous papers on the subject which have appeared in the current professional literature. Both graphical and mathematical approaches are covered. The concept of "jerk" is emphasized. The procedures for designing gear trains, rolling curves, and linkages are discussed; and a short chapter on synthesis of mechanisms is included. Recognizing the trend in engineering education towards sounder theoretical bases, the author begins all treatments with scientific fundamentals and utilizes only standard techniques.
CONTENTS—Preface. Symbols and Abbreviations. Equations of Plane Motion. Cams. Centros and Velocities. Relative Velocities. Velocities by Components. Relative Accelerations. Coriolis Acceleration. Miscellaneous Motion Problems. Spur Gears. Noninterchangeable Tooth Profiles. Helical, Bevel, and Worm Gearing. Gear Trains. Flexible Connectors and Friction Wheels. Synthesis of Mechanisms. Miscellaneous Devices. Appendix. References. Index.

FAIRES AND KEOWN—Mechanism
By VIRGIL MORING FAIRES, United States Naval Postgraduate School, ROBERT MCARDLE KEOWN, formerly University of Wisconsin (Deceased). Fifth Edition.
332 *pp.*, 6 *x* 9, 223 *illus.* (1960)....$7.95*c*
For over twenty years an established classic for mechanical engineering students, this all-new fifth edition details and explains the numerous technical advancements and developments in the field since 1939. Intended primarily as a working text, the book is written in clear, lucid language, and is noteworthy for the quality of its composition, its logical explanations and readability.
CONTENTS—Preface. Symbols and Abbreviations. Equations of Plane Motion. Cams. Centros and Velocities. Relative Velocities. Velocity Diagrams. Relative Accelerations. Spur Gears. Helical, Bevel and Worm Gearing. Gear Trains. Flexible Connectors and Friction Wheels. Miscellaneous Devices. Appendix. References. Index.

KEPLER—Basic Graphical Kinematics
By HAROLD B. KEPLER, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio.
314 *pp.*, 6 *x* 9, 275 *illus.* (1960).....$6.00*c*
This book stresses the *graphical* approach to kinematics. It keeps analytical work to a minimum and presents explanations and derivations graphically where possible. This approach enables the reader to understand the material without a knowledge of calculus. All the traditional topics of kinematics are covered: displacements, velocities, accelerations, cams, gears, chains, and belts. Separate chapters familiarize the reader with the drafting techniques needed to solve kinematic problems graphically, with vectors and vector equations, and with motion curves.
CONTENTS—Preface. Introduction and Definitions. Vectors. Basic Motion Concepts. Kinematic Drawing and Displacements. Centros (Instantaneous Centers). Velocities in Mechanisms. Accelerations in Mechanisms. Motion Curves. Cams. Theory of Gears. Trains—Belt, Chain, and Gear. Miscellaneous Mechanisms.

SHIGLEY—Kinematic Analysis of Mechanisms
By JOSEPH EDWARD SHIGLEY, University of Michigan. *Series in Mech. Engg.*
351 *pp.*, 6 *x* 9 (1959).....$8.50*c*
Written for the student and the practicing engineer, this book gives the reader a solid background in mechanism analysis. Covering the field thoroughly, it stresses basic theory and builds strong methods of analysis. Equal emphasis is placed on graphical and analytical methods. The traditional graphic method is employed, and two analytical methods of vector analysis have been added. Synthesis of mechanisms is dealt with throughout. Space mechanisms and computer mechanisms are also included. Algebraic methods have been made applicable to a great many mechanisms.
CONTENTS—Preface. Introduction. Vectors. Motion and Displacement. Velocity. Acceleration. The Geometry of Motion. Spur Gears. Helical, Worm, and Bevel Gears. Mechanism Trains. Linkages. Cams. The Analysis of Space Mechanisms. Analog Computing Mechanisms. Index.

Machine Design

ALMEN AND BLACK—Residual Stresses and Fatigue in Metals
By JOHN O. ALMEN, Sierra Madre, California, and PAUL H. BLACK, Ohio University.
226 *pp.*, 6 *x* 9, 149 *illus.* (1963)....$12.50*i*
This book is written for design, research, and development engineers, metallurgists, and for students who wish to be better equipped for engineering and metallurgical careers in modern, high intensity use of materials. The subject is the interrelation between residual stresses and fatigue in metals and includes discussions of harmful and beneficial stresses and methods of their production and measurement. The theories and principles are amply supported by extensive experimental data and by 55 selective case histories.
CONTENTS—Preface. Introduction. Classification of Stresses. Mechanical Properties of Materials. Fatigue Failures. Methods of Producing Residual Stresses. Mechanical Prestressing. Measurement of Residual Stresses. Torsional Stress Diagrams. Residual Stress and Fracture in Glass. Stress Corrosion and Fretting Corrosion. Residual Stresses in Forming, Welding and Plating. Residual Stresses in Gear Teeth. Cracks and Fissures in Railroad Wheels and Rails. The Effect of Residual Stress on Rolling Bodies. Strength of Dynamically Loaded Bolts and Studs. Case Histories. References. Name Index. Subject Index.

BLACK—Machine Design
By PAUL H. BLACK, Ohio University. Second Edition.
471 *pp.*, 6 *x* 9, 392 *illus.* (1955).....$9.50*c*
Acquaints the engineer and student with the design of machine elements and the design and selection of units of power transmission, all incorporating optimum characteristics of strength, rigidity, wear, and economy of manufacture and

operation. The rational approach is used wherever possible. The book is directed toward practical design applications rather than academic analysis problems.

CONTENTS—Machine-design Computations. Loading, Induced Stresses, and Failure. Stress Concentration in Machine Members. Allowable Stresses. Members That Fail by Buckling. Engineering Materials. Mechanical Fabrication and Processes. Detachable Fastenings. Springs. Pressure Cylinders. Translation Screws. Shafting. Belt Drives and Hoists. Power-transmission Chains. Shaft Couplings. Clutches and Brakes. Spur and Parallel Helical Gears. Gears for Nonparallel Shafts. Surface Finish, Friction, and Wear. Sliding Bearings and Lubrication. Rolling-contact Bearings. Metal Fits and Tolerances. Vibration and Vibration Control. Motor Selection. Index.

CHIRONIS—Spring Design and Application

Edited by NICHOLAS P. CHIRONIS, *Product Engineering*.

352 *pp.*, 8⅜ *x* 11, *illus.* (1961).....$9.50*i*

Provides a wealth of useful design equations, design details, charts, and nomographs for solving everyday problems in spring design. Drawing from a large number of sources, and covering a wide variety of spring types, including constant-force and multi-rate springs, ceramic, glass fiber and plastic springs, air and liquid springs, Belleville and ring springs, stranded-wire springs, and flat-curved springs, it deals authoritatively with such problems as spring buckling and unseating, surge waves, dimensional analysis of springs, spring tangling, designing for minimum values, fatigue, residual stresses, relaxation, creep, high-temperature considerations, shock, costs, overload protection, and more. Based largely on material appearing in *Product Engineering*.

CONTENTS—Helical Springs: Basic Design Considerations. Helical Springs: Dynamic and Stress Considerations. Helical Springs: Special Shapes and Wire Forms. Flat Springs. Torsion Springs and Bars. Constant-force and Variable-rate Springs. Belleville and Ring Springs. Liquid and Air Springs. Plastic and Rubber Springs. Springs for Absorbing Shock and Vibration. Springs for Mechanisms and Devices. Special-purpose Springs. Spring Materials. Spring Manufacture and Testing.

DUDLEY—Gear Handbook

The Design, Manufacture and Application of Gears

By DARLE W. DUDLEY, General Electric Co. Prepared by a Staff of Specialists.

937 *pp.*, 6 *x* 9, 800 *illus. and tables* (1962) $24.50*hb*

Written and prepared by thirty top gear experts, this practical handbook covers the design, manufacture, and application of virtually every type of gear in commercial use. It provides practical data on gear efficiency, gear loading practices, gear tolerances, gear inspection equipment and practices, gear arrangements, and more. The book also covers in detail recently patented and proprietary gear types—Spiroid, Beveloid, Planoid, Helicon, and face gears. Gear arrangements are treated fully, including Planocentric drive, Harmonic drive, and special planetary types. Contains valuable information on the performance of gear equipment, its life expectancy, and the relative costs of different ways of making gears. Illustrated with scores of charts, diagrams, photographs, and tables.

CONTENTS—Basic Theory of Gear-tooth Action and Generation. Functional Types of Gears. Gear Arrangements. Elements of Gears and Basic Formulas. Gear-tooth Proportions. Center Distance. Special Calculations for Spur and Helical Gears. Calculation of Gear-tooth Profiles. Gear Tolerances. Gear Materials. Gear Drawings. Gear Reactions and Mountings. Load Rating of Gears. Loaded Gears in Action. Lubrication of Gears. Gear Cutting. Gears Produced by Dies. Gear Finishing by Shaving, Honing, and Lapping. Grinding Spur and Helical Gears. Bevel- and Hypoid-gear Manufacturing. Worm and Wormgear Cutting and Grinding Processes. Gear-cutting Tools. Gear-inspection Devices. Numerical Data Tables.

MYATT—Machine Design Problems

By DONALD J. MYATT, Antioch College.

176 *pp.*, 8½ *x* 11 (1959).....$5.00*c*

These problems give the junior or senior engineering student an opportunity to apply the principles of mechanics, kinematics, strength of materials, and manufacturing methods to the design of machine members and machines. Emphasis is placed upon understanding the fundamental behavior of the part and determining its design limits. There are 69 short problems on design of machine elements. The problem layouts encourage the student to present his work in a professional manner and enable him to summarize results on one sheet.

CONTENTS—PROBLEMS ON MACHINE ELEMENTS. Stress Analysis: Curved Link, Steering Knuckle, Overhung Crankshaft, Ball Bearing, Roller Chain, Welded Crank, Worm Shaft, Sprag Clutch. Shafts: Line Shaft, Sprocket-loaded Line Shaft, Motor Shaft, Motor-reducer Shaft, Bending and Twisting in Shafts. Machine Shaft Analysis, Pulley Shaft Design, Hollow Pulley Shaft, Car Puller Shaft. Springs: Coil Spring Terms, Square Wire Coil Spring, Clutch Spring Design, Brake Spring Design, Valve Spring Design, Governor Tension Spring, Wheel Suspension Spring. Fasteners: Bolt Terms, Assembly Bolts, Bracket Attachment Bolts, Cylinder Head Bolt Design, Connecting-rod Bolt Design. Lubrication of Plain Bearings: Bearing Terms, Bearing Loads, Wrist-pin Bearing, Pressure Fed Bearing, Bearing Temperature Equilibrium, Motor Bearing Design, Connecting-rod Bearings. Spur Gears: Spur Gear Terms, Planatary Gear Train, Gear-tooth Beam Strength, Gear-tooth Wear Strength, AGMA Strength Rating, Gear Strength Rating, AGMA Gear-wear Rating, Gear-wear Rating, Reducer Gear Design, Car-puller Gear Design. Couplings and Clutches: Cast-iron Flange Coupling, Steel Flange Coupling, Cast-bronze Flange Coupling, Automobile Clutch, Fluid Coupling I, Fluid Coupling II, Assembly Press Clutch, Multiple-disc Clutch Design. Brakes: Block Brake Analysis I, Block Brake Analysis II, Block Brake Analysis III, Band-block Brake Analysis, Brake Design Comparison, Automobile Brake Design. Miscellaneous Machine Elements: Cast-iron Bevel Gears, Pump-drive Bevel Gears, Case-hardened-steel Bevel Gears, Assembly Press Drive, Herringbone Gear Drive, Toggle-press Screw Drive, Ball-bearing Failure Analysis, Worm-gear Speed Reducer Design, Worm-gear Speed Reducer Analysis. PROBLEMS ON DESIGN OF MACHINES. Chain-bucket Head Shaft. Power Hack Saw. Spur-gear Electric Hoist. Fork-lift Attachment. Automatic Backstop and Brake. Shaft-mounted Speed Reducer. Assembly Press. List of Data. List of References.

HYLAND AND KOMMERS—Machine Design

By P. H. HYLAND and J. B. KOMMERS, University of Wisconsin. Third Edition.

562 *pp.*, 6 *x* 9, 333 *illus.* (1943).....$8.95*c*

Introduces the student to the engineering approach in the solution of technical machine design problems. This edition includes gear data and methods of checking gears for strength and wear.

CONTENTS—General Consideration and Procedure Affecting Design. Metalworking and Shop Processes. Materials of Construction. Linkwork, Instant Centers, and Velocity Diagrams. Cams. Fundamental Mechanics. Bearings, Friction, and Lubrication. Friction as a Useful Agent. Riveted Joints. Screw Fastenings and Power Screws. Shafting and Shaft Couplings. Keys. Toothed Gears. Machines. Frames. Some Useful Tables.

MYATT—Machine Design

An Introductory Text

By DONALD J. MYATT, Antioch College.

304 *pp.*, 6 *x* 9, 182 *illus.* (1962).....$8.75*c*

This is a textbook on mechanical design and machine design to be used by engineering students at the junior-year or senior-year level. It is written for the student who is making the

transition from the viewpoint of the Engineering Sciences to the viewpoint of Engineering Design. Emphasis in the text is placed upon illustrating the why and how of reducing to practice the outline or framework of a machine—after its concept has been established from the processes of synthesis, and the limitations of the machine have been determined by the processes of analysis.

CONTENTS—Preface. Introduction. Initiating Design of Machines. Design of Machines for Dependability. Design of Spur Gears and Spur Gear Trains. Design of Machine Shafts. Design of Sleeve Bearings. Design of Brakes. Design of Helical Springs. Design of Bolted Assemblies. Design of Clutches and Couplings. A Miscellany of Transmission Members. Appendix. Index.

PINKUS AND STERNLICHT—Theory of Hydrodynamic Lubrication

By OSCAR PINKUS, Republic Aviation Corporation; and BENO STERNLICHT, Consulting Engineer; both of General Electric Company.

465 *pp.*, 6 *x* 9, 262 *illus.* (1961).....$9.95*i*

Offers a unified analysis of hydrodynamic and hydrostatic lubrication. Applies general principles of fluid flow to bearing operation, and formulates the differential equations of lubrication, including energy and elasticity considerations. The book presents techniques for solving these equations, either analytically or by analogue and digital computers. The equations provide a sound basis for the design and solution of specific bearing problems. Topics covered include the Navier-Stokes Equation, one- and two-dimensional solutions, incompressible lubrication, dynamically loaded bearings, etc. Particular attention is paid to gas bearings, squeeze films, cavitations, boundary lubrication, and grease-lubricated bearings.

CONTENTS—Basic Differential Equations. Hydrodynamics of Simple Configurations. Incompressible Lubrication—One-dimensional Bearings. Incompressible Lubrication—Finite Bearings. Hydrodynamic Gas Bearings. Hydrostatic Bearings. Squeeze Films and Dynamic Loading. Hydrodynamic Instability. Variable Viscosity. Elasticity Considerations. Hydrodynamics of Rolling Elements. Inertia and Turbulence Effects. Non-Newtonian Fluids. Extension of the Classical Theory. Experimental Evidence.

ROSENTHAL AND BISCHOF—Elements of Machine Design

By EMANUEL ROSENTHAL, Brooklyn Technical High School, and GEORGE P. BISCHOF, East New York Vocational High School.

233 *pp.*, 6 *x* 9, *illus.* (1955).....$5.00*c*

Analyzes the problems inherent in the proportioning of machine parts and presents simple and rational solutions. Emphasis is placed on the derivations of the formulas presented and the relationship of these formulas to the principles of strength of materials on which they are based. The problems at the end of each chapter are practical, comprehensive, and graded in difficulty.

CONTENTS—The Work of the Machine Designer. Properties of Materials. Metals of Industry. General Problems of Force and Motion. Force and Motion as Applied to Simple Machines. Design Stress and Dynamic Loading. Power and Power Transmission. Shafts in Torsion Only. Shafts in Bending and Torsion. Elastic Deformation in Shafts. Keys. Pulleys and Belts. Gears and Friction Wheels. Couplings. Bearings. Clutches. Thin-walled Cylinders. Welded and Riveted Joints. Screws, Fastenings, and Seals. Springs. Combined Stresses. Fits, Allowances, and Tolerances. Appendix. Bibliography. Visual Aids. Index.

ROTHBART—Mechanical Design and Systems Handbook

Edited by HAROLD A. ROTHBART, Fairleigh Dickinson University. Prepared by a Staff of Specialists.

In Press

Provides a complete scientific basis for the dynamic analysis of mechanical systems and for machine design. Replaces the outmoded, empirical methods of putting a machine together, which do not succeed with today's faster-moving, more sensitive, and more complex mechanisms. The new concept is of a machine as an assembly of interacting mechanical systems and components, subject to definite methods of mechanical analysis. The key factors of dynamics, power, and control are thus applied to the analysis and design of machines, mechanical elements, mechanical and electromechanical systems, controls, servomechanisms, analog computers, and automation. Due attention is given to their fabrication, function, stability, speed, reliability, performance, and life.

CONTENTS—MATHEMATICS. Mathematics and Tables. Analog Computers. Digital Computers. ENGINEERING MECHANICS. Classical Mechanics. Kinematics of Mechanisms. Cam Mechanisms. Mechanical Vibrators. Noise Control. SYSTEM ANALYSIS AND SYNTHESIS. System Dynamics. Control System Application. High-Speed Machinery. DYNAMICS OF CONTACTING BODIES. Friction, Lubrication, and Wear. Hydrodynamic Lubrication. Rolling Bearings. Friction Drives. DYNAMICS OF MATERIALS. Mechanics of Materials. Impact. Properties of Engineering Materials. Mechanical Design. Fabrication Principles. FASTENERS. Standards. Bolted Joints. Rivets and Riveting. Shrink- and Press-fitted Assemblies. Pressure Components. Welding, Brazing, Soldering, and Adhesive Bonding. POWER CONTROL COMPONENTS AND SUBSYSTEMS. Power Screws. Couplings, Shafts, Keys. Brakes, Clutches. Belts. Chains. Cable Dynamics. Gears. Springs. Dampers. Electro-mechanical Components. Hydraulic Components.

SHIGLEY—Dynamic Analysis of Machines

By JOSEPH EDWARD SHIGLEY, The University of Michigan. *Series in Mech. Engg.*

645 *pp.*, 6 *x* 9, 276 *illus.* (1961)....$7.95*c*

A strong feature of this book is its use of the *unit vector approach* from the beginning to determine the static and dynamic forces in machinery. This method is of great value for analyzing static forces and static bearing reactions in gear trains composed of spur, helical, bevel, and worm gears. It is also used for the dynamic analysis of linkages, including space mechanisms, and to introduce momentum concepts.

CONTENTS—Preface. Introduction to Dynamic Analysis. Static Force Analysis. Dynamic Force Analysis—Plane Motion Mechanisms. Dynamic Force Analysis—Space Mechanisms. Vibration Analysis. Balancing. Dynamics of the Reciprocating Engine. Cam Dynamics. Dynamics of Feedback Control Systems. APPENDIX III. Moments of Inertia. APPENDIX IV. Indicator Diagrams. INDEX.

SHIGLEY—Theory of Machines

By JOSEPH EDWARD SHIGLEY, The University of Michigan. *Series in Mech. Engg.*

657 *pp.*, 6 *x* 9, 691 *illus.* (1961)....$12.50*c*

This book is written for the student of engineering, yet it has many features which should make it a useful addition to the practicing engineer's library. The kinematics and mechanisms field, in common with many other areas of engineering today, has experienced important extensions of knowledge during the past decade or so. PART I—KINEMATIC ANALYSIS OF MECHANISMS employs the traditional graphical method and has added two analytical methods of vector analysis. All three methods are applied very generally and thoroughly throughout the book—in easy stages. They are applied to both the analysis and the synthesis of mechanisms. PART II—DYNAMIC ANALYSIS OF MACHINES uses the *unit vector approach* from the beginning to determine the static and dynamic forces in machinery. This method is

of great value for analyzing static forces and static bearing reactions in gear trains composed of spur, helical, bevel, and worm gears. CONTENTS—Introduction. Vectors. Motion and Displacement. Velocity. Acceleration. The Geometry of Motion. Spur Gears. Helical, Worm, and Bevel Gears. Mechanism Trains. Linkages. Cams. The Analysis of Space Mechanisms. Analog Computing Mechanisms. Introduction to Dynamic Analysis. Static Force Analysis. Dynamic Force Analysis—Plane Motion Mechanisms. Dynamic Force Analysis—Space Mechanisms. Vibration Analysis. Balancing. Dynamics of the Reciprocating Engine. Cam Dynamics. Dynamics of Feedback Control Systems.

SHIGLEY—Mechanical Engineering Design

By JOSEPH E. SHIGLEY, Univ. of Michigan. *Series in Mech. Engg.*

641 *pp.*, 6 *x* 9, 546 *illus.* (1963)....$10.95*c*

Although this is officially a revision of *Machine Design*, the new title reflects the thorough rewriting and broadening of the text to meet the changing needs in engineering design courses. The approach and purpose are extended so that mechanical design per se is simply the vehicle for teaching the philosophy, methodology, and approach of engineering design. Part I teaches the meaning of design, and presents useful tools and analytical methods applicable to a broad class of mechanical engineering design problems. It also presents notation and terminology. Part II applies these concepts to the design of particular classes or elements of machines, systems, and structures.

CONTENTS—FUNDAMENTALS OF MECHANICAL DESIGN. Introduction Stress Analysis. Deflection Analysis. Selection of Materials. The Strength of Mechanical Elements. Principles of Design. PART 2—THE DESIGN AND SELECTION OF MECHANICAL ELEMENTS. The Design of Screws, Fasteners, and Joints. Mechanical Springs. Antifriction Bearings. Lubrication and Journal Bearings. Spur Gears. Helical, Worm, and Bevel Gears. Shafts. Clutches, Brakes, and Couplings. Flexible Mechanical Elements. Miscellaneous Topics. *Appendix. Index.*

VALLANCE AND DOUGHTIE—Design of Machine Members

By ALEX VALLANCE and VENTON L. DOUGHTIE, University of Texas. Third Edition.

500 *pp.*, 6 *x* 9, 363 *illus.* (1951)....$9.50*c*

New material has been added to give more logical treatment and to bring up to date the discussions of endurance limit, eccentric loading, columns, structural riveting, threaded fasteners, gears, and chains. Illustrations show modern equipment used in industry. A wide variety of subjects is presented, and the practical, as well as the theoretical, approach is considered.

CONTENTS—Introduction. Engineering Materials. Stresses in Elementary Machine Members. Design Stresses and Factor of Safety. Cylinders, Pipes, and Tubes. Metal Fits and Tolerances. Flat Plates and Cylinder Heads. Riveted Joints. Welded Joints. Threaded Fasteners and Power Screws. Keys, Cotters, and Knuckle Joints. Shafts. Siding Bearings. Roller and Ball Bearings. Couplings and Clutches. Brakes. Springs. Spur Gears. Bevel and Screw Gears. Belts and Belt Conveyors. Rope Drives. Hoisting and Power Chains. Miscellaneous Machine Members. Problems for Assigned Work. Index.

DUDLEY—Practical Gear Design

By DARLE W. DUDLEY, General Electric Company.

335 *pp.*, 6 *x* 9, 165 *illus.* (1954)....$10.50*iL*

Gives practical information for all concerned with the design, manufacture, and use of gears. Shows how to handle *all* commonly used methods of calculation of the load-carrying capacity, proper geometric proportioning of the parts, choice of suitable and available materials, sizing of the parts for available and economical manufacturing processes, consideration of the limitations imposed by different gear-cutting tools, consideration of service conditions under which the gear will operate, and kinds and causes of failure.

CONTENTS—Gear Design Trends. Preliminary Design Considerations. Design Formulas. Gear Materials. Gear Manufacturing Methods. Design of Tools to Make Gear Teeth. The Kinds and Causes of Gear Failures. Special Design Problems. Index.

WAHL—Mechanical Springs

By A. M. WAHL, Westinghouse Research and Development Center, Pittsburgh. Second Edition.

323 *pp.*, 6 *x* 9, 102 *illus.* (1963)....$12.75*i*

This second edition is a complete revision and rearrangement of the first text which appeared originally in 1944 and was published by the Penton Publishing Company. Since that time a substantial amount of new data on spring theory, design, and materials has appeared. It is the primary purpose of this book to bring together this new material for the benefit of spring designers and engineers. Machine designers, engineers, and draftsmen engaged in any phase of mechanical design will find the information of great value, as will students enrolled in college-level machine design courses. The four sections of the book are: spring materials and general considerations; practical design of helical compression and extension springs; design of other types of springs; and basic theory for mechanical spring design. A special feature of the book is the comprehensive discussion of such various springs as coned disk, Belleville, flat, leaf, volute, ring, and rubber.

WILCOCK AND BOOSER—Bearing Design and Application

By DONALD F. WILCOCK, General Engineering Laboratory, General Electric Co., and E. R. BOOSER, Atomic Power Equipment Department, General Electric Co.

470 *pp.*, 6 *x* 9, *illus.* (1957).....$14.00*i*

A thorough treatment of the selection and design of bearings for machines, with emphasis on the practical selection and calculation methods for integrating the bearing design, bearing material, and lubricant into a workable unit. Covers analysis of load capacity, speed, temperature, dimensional tolerance, and lubrication factors in selecting ball and roller bearings; combination of digital computer analysis with bearing material and lubricant selection in hydrodynamic journal and thrust bearings; reciprocating bearing design methods for automotive and diesel use; lubrication system designs; and systematic trouble-shooting techniques for analyzing and eliminating difficulties.

CONTENTS—GENERAL CONSIDERATIONS. Selection of Bearing Class. ROLLING BEARINGS. Selecting Type and Size. Rolling Bearings—Design Considerations. Lubrication. Inspection and Handling. Rolling-bearing Trouble Shooting. SLIDING BEARINGS. Selecting the Design. Pressure-fed Journal Bearings. Nonpressurized Journal Bearings. Reciprocating-load Bearings. Thrust Bearings. Externally Pressurized Bearings. Selection of Sliding-bearing Materials. Lubricants for Journal and Thrust Bearings. Trouble Shooting.

Dynamics of Machinery

HAM, CRANE, AND ROGERS—Mechanics of Machinery

By C. W. HAM, formerly University of Illinois, E. J. CRANE, Western Electric Company, and W. L. ROGERS, Northwestern University. *Series in Mech. Engg.* Fourth Edition.

509 *pp.*, 6 *x* 9, 456 *illus.* (1958)....$9.50*c*
Thoroughly revised, this fourth edition offers a well-rounded discussion of the principles governing inertia forces in rapidly moving machine parts and of the principles by which the effects of these forces may be modified or eliminated.

CONTENTS—Preface. MECHANISM. Introductory Considerations. Linkages and Flexible Connectors. Cams. Toothed Gearing—Spur Gears. Gear Types and Manufacturing Methods. Intermittent-motion Mechanisms. Trains of Mechanism. KINEMATICS AND DYNAMICS OF MACHINERY. Velocities in Machines. Acceleration in Machines. Static Forces in Machines. Inertia Forces. Balancing of Machinery. Force Analysis of a Gasoline Engine. Vibrations and Critical Speeds in Shafts. Gyroscopic Forces. Appendix. Problems. Index.

HARTMAN—Dynamics of Machinery
By JAMES B. HARTMAN, deceased. *Series in Mech. Engg.*
277 *pp.*, 6 *x* 9, *illus.* (1956).....$8.50*c*
Emphasizes the development of the reader's ability to apply fundamental principles to the solution of engineering problems. In this book the author seeks to: 1) reexamine dynamics from a more mature viewpoint; 2) extend a two-dimensional consideration of kinematics and dynamics to the three-dimensional case by means of vector notation; 3) provide a transition from basic work in mechanics to more advanced graduate work in dynamics; 4) show the reader the current practical applications of mathematics and dynamics; and 5) introduce the mechanical engineer to certain mathematical techniques now becoming widely used in the literature of automatic controls and servomechanism.

CONTENTS—List of Symbols. Some Preliminary Considerations. Some Principles of Dynamics. Inertia Forces. Mechanical Vibrations. Balancing of Machinery. Engine Dynamics. Mechanical Transients. Dynamics of Automatic-control Systems. Appendix: Special Projects to Develop a Professional Approach to Engineering Problems. Bibliography. Index.

HIRSCHHORN—Kinematics and Dynamics of Plane Mechanisms
By JEREMY HIRSCHHORN, The University of New South Wales.
300 *pp.*, 6 *x* 9, 299 *illus.* (1962).....$11.00*c*
This new undergraduate-graduate text offers a comprehensive but selective presentation of important postwar developments and discoveries, and improvements in techniques of analysis and synthesis in the field of kinematics and mechanisms. The study proceeds from a thorough coverage of the kinematic and dynamic analysis of plane mechanisms to a more advanced consideration of the kinematics of the rigid body and finally, to an introductory consideration of the various methods of synthesis. Kinematic analysis is not treated as an end in itself but rather as a step towards the dynamic analysis, and the material is suitably arranged for both graduate and undergraduate courses in machine design and mechanisms. The combination of basic theory and recent advanced developments presented in this book make it equally valuable as a text and a reference.

CONTENTS—Preface. Fundamentals of Vector Analysis. Kinematics of the Plane Motion of a Particle. Kinematics of the Plane Motion of a Rigid Body. Kinematics of Simple Mechanisms. Kinematics of the Slider-crank Mechanism. Kinematics of Complex Mechanisms. Fundamental Principles of Dynamics and Statics. Forces in Mechanisms. Dynamic Motion Analysis. Advanced Kinematics of the Plane Motion. Introduction to Synthesis, Graphical Methods. Introduction to Synthesis, Analytical Methods. Introduction to Synthesis, Grapho-analytical Methods. Bibliography. Index.

Vibrations

DEN HARTOG—Mechanical Vibrations
By J. P. DEN HARTOG, Massachusetts Institute of Technology. Fourth Edition.
437 *pp.*, 6 *x* 9, *illus.* (1956).....$10.50*c*
Intended for use after the usual first courses in statics, dynamics, and strength of materials. Since it contains more material than needed for undergraduates, the latter half of the book may be used for graduate students. While dealing with vibration phenomena in a thoroughly technical manner, the text emphasizes the many applications of principles and calculations to the practical vibration problems encountered by the practicing engineer. Explanations and proofs are presented without employing mathematics higher than simple differentiations and integrations.

CONTENTS—List of Symbols. Kinematics of Vibration. The Single-degree-of-freedom System. Two Degrees of Freedom. Many Degrees of Freedom. Multicylinder Engines. Rotating Machinery. Self-excited Vibrations. Systems with Variable or Non-linear Characteristics. Problems. Answers to Problems. Appendix: A Collection of Formulas. Index.

HARRIS AND CREDE—Shock and Vibration Handbook
Edited by CYRIL M. HARRIS, Columbia University, and CHARLES E. CREDE, California Institute of Technology. Prepared by a Staff of Specialists.
2014 *pp.*, 6 *x* 9, 1501 *illus.* (1961) 3 *volume set not sold separately*.....$47.50*hb*
Volume I—Basic Theory and Measurements.
Volume II—Data Analysis, Testing, and Methods of Control.
Volume III—Engineering Design, and Environmental Conditions.
Covers all major phases of shock and vibration technology. Provides especially valuable working reference in the areas of mechanical, aeronautical, electrical, marine, ventilating, and automotive engineering. Special material of interest to geophysicists and those working in missile testing and design of military equipment is also covered. The book includes recently declassified information on vibration simulators used in testing equipment, and practical facts and data on instrumentation. Other sections treat effects of shock and vibration on man; shock and vibration in automobiles, railroads, ships, missiles, and aircraft; effect of blast on structures; air suspension; dimensional analysis and scale models; and of other topics.

JACOBSEN AND AYRE—Engineering Vibrations
With Applications to Structures and Machinery
By LYDICK S. JACOBSEN, Stanford University and ROBERT S. AYRE, Yale University. *McGraw-Hill Series in Mechanical Engineering.*
564 *pp.*, 6 *x* 9, 231 *illus.* (1958)....$10.50*c*
This book introduces the advanced student to the analysis of technical vibrations of linear as well as of non-linear systems. In view of modern interests in shock problems, the book emphasizes the transient state of motion, and considers the stationary state a special one. The authors aim to develop a treatment that can be followed with comparative intellectual ease by a student with some knowledge of ordinary dif-

ferential equations. Differential equations are set up in a form adequate to describe the problem, yet in a form susceptible to being solved. Solutions are effected by elementary analytical methods whenever feasible; otherwise approximate methods of the graphical or graphoanalytical type are used.

CONTENTS—Preface. List of Symbols. PART I. LINEAR AND NON-LINEAR SINGLE DEGREE OF FREEDOM SYSTEMS, WITH AND WITHOUT DAMPING: TRANSIENT AND STEADY FORCED VIBRATION. Single Mass Systems with Negligible Friction. Energy Methods of Finding Natural Frequencies; Energy of Free Vibration. Transient and Steady Forced Vibration of the Linear Undamped Oscillator. Transient Response Spectra for the Linear Undamped Oscillator. Vibratory Systems Influenced by Friction. Non-harmonic Vibrating Systems. PART II. LINEAR UNDAMPED MULTI-DEGREE OF FREEDOM SYSTEMS; INCLUDING DISTRIBUTED PARAMETER SYSTEMS. Systems Having Two Degrees of Freedom. The Vibration Problem of *n* Masses. Numerical Methods of Analyzing Multi-Mass Vibrating Systems. Vibration of Systems Having Distributed Mass and Elasticity. Appendix 1. Instrumentation. Bibliography. Appendix 2. Graeffe's Method of Successive Approximations. Appendix 3. Supplementary Bibliography. Answers and Hints to Solution of Problems. Index.

MACDUFF AND CURRERI—Vibration Control

By JOHN N. MACDUFF, Duke University, and JOHN R. CURRERI, Polytechnic Institute of Brooklyn.

465 *pp.*, 6 *x* 9, *illus.* (1958).....$10.25*c*

This text deals with some of the fundamentals of vibration control which are a vital part of the background knowledge of the modern day designer of engineering systems. It provides the student with some basic theory and application in this area essential to an engineering understanding and comprehension of the fundamentals of the subject, and prepares him for future study and development by pointing out limitations of the elementary theory and indicating problems and methods for advanced study and applications. In this connection, the material presented has been selected to have as broad a coverage of the field as possible, ranging from elementary vibration theory through such specific studies as rotor balancing, vibration isolation, steady state and transient response, and sound control problems.

CONTENTS—Preface. Introduction. Response of Simple Systems. Differential Equations and Single-degree-of-freedom Systems. Steady-state Response of Lumped-parameter Systems. Natural Frequencies of Simple Systems. Steady-state Vibration Isolation. Mechanical Transients. Balancing. Lateral Vibration of Shafts. Torsional Vibrations. Sound and Noise Control. Automatic Control Systems. Problems. Bibliography. Appendix—Harmonic Analysis. Index.

MYKLESTAD—Fundamentals of Vibration Analysis

By N. O. MYKLESTAD, Airesearch Manufacturing Company of Arizona.

260 *pp.*, 6 *x* 9, *illus.* (1956).....$7.95*c*

Gives the reader a thorough understanding of the subject of vibrations from a basic point of view rather than by presenting routine methods of analysis. After the fundamentals have been mastered, the reader will be able to go on to study the numerous special tools that have been developed for the purpose of obtaining solutions to more complicated problems.

CONTENTS—Preface. Fundamentals. Undamped Vibrations of Single-degree-of-freedom Systems. Vibrations of Single-degree-of-freedom Systems with Viscous Damping. Systems of One Degree of Freedom with Non-viscous Damping. Undamped Vibrations of Systems with More than One Degree of Freedom. Application of Generalized Coordinates. Damped Vibrations of Systems with More than One Degree of Freedom. Tabular Methods for Finding Natural Frequencies. Answers to Problems. Index.

Shipbuilding

BAKER—Introduction to Steel Shipbuilding

By ELIJAH BAKER III, Estimator and Surveyor, Newport News Shipbuilding and Dry Dock Company; Professor of Naval Architecture, University of Virginia, Newport News Extension Division. Second Edition.

390 *pp.*, 5½ *x* 8, 280 *illus.* (1953)....$6.00*c*

Presents the basic reasoning and good practice of designing and constructing ships. Gives an understanding of the ship as a whole, and the relationship of the many shipyard trades to the finished vessel. Uses a practical approach requiring simple mathematics. The trigonometry is integrated in the discussion where necessary.

CONTENTS—Shipbuilding Definitions. Abbreviations. General Discussion of Strength of Materials. Materials Used in Shipbuilding. Riveting and Welding. Keels. Floors and Double Bottoms. Frames and Framing Systems. Shell Plating. Deck Beams, Pillars and Girders. Decks. Bulkheads and Flooding. Stem, Stern Frame, and Rudder. Types of Ships. Lines and Offsets. Weight and Displacement Calculations. Stability. Trim, the Inclining Experiment, and Damage Control. Launching. Tonnage. Power and Its Measurement. Methods of Determining Power Required. Propulsion. Propeller Design. Testing the Ship on Trials. Maritime Commission Vessels. Books Recommended for Advanced Study.

GIBBS AND COX—Marine Design Manual for Fiberglass Reinforced Plastics

By ENGINEERS OF GIBBS & COX, INC. Sponsored by Owens-Corning Fiberglas Corp.

376 *pp.*, 8½ *x* 11, 202 *illus.* (1960)...$16.75*i*

Fully explains the engineering and structural principles involved in the construction of commercial, military, and pleasure vessels from fiberglass reinforced plastics. A variety of design problems are presented and analyzed. Many detailed drawings of hull and deck connections, engine beds, and mechanical fastenings are used throughout the book. Topics discussed include molding methods, engineering properties of laminates, design of laminates, isotropic and orthotropic laminates, and recommended construction methods.

CONTENTS—Introduction. Boat Hull Design. Design Details. Materials and Molding Methods. Engineering Properties of Laminates. Design of Laminates.

Design Engineering

ERNST—Oil Hydraulic Power and Its Industrial Applications

By WALTER ERNST, The Commonwealth Engineering Company of Ohio, Dayton, Ohio. Second Edition.

467 *pp.*, 6 *x* 9, 378 *illus.* (1960).....$14.75*i*

Shows how oil hydraulic power is generated, utilized, transmitted, controlled, and applied in industry, and gives designers and engineers a well-rounded understanding of the field. Covers oil hydraulics from basics of fluid mechanics, through component and circuit design, to essential data on commercial equipment and hints for operation and maintenance.

CONTENTS—Fundamental Units of Measurement. Properties of Hydraulic Fluids. Hydrostatics. Hydrodynamics. Viscous Flow. Viscous and Turbulent Flow. Generation of Oil Hydraulic Power. Utilization of Oil Hydraulic Power. Transmission of Hydraulic Power. Control of Oil Hydraulic Power. Application of Oil Hydraulic Power. Industrial Applications of Oil Hydraulic Power.

GREENWOOD—Product Engineering Design Manual

Edited by DOUGLAS GREENWOOD, Editor, *Product Engineering Design Digest.*

360 *pp.*, 8½ *x* 11 (1959).....$12.00*i*

Presents more than 140 articles which give a solid package of practical how-to's and valuable design-file material for producing better methods, devices, components, and complete products. Over 100 product design topics are covered, ranging from information on adhesives to practical hints on electroplating. Provides a wealth of two-page illustrated spreads, supplemented where necessary with formulas, tables, and reference charts. This material is drawn from the pages of *Product Engineering* and represents the know-how of foremost authorities in the field.

CONTENTS—Accessories. Assembly. Clutches. Couplings. Bearings and Mounts. Control and Measurement Devices. Dimensions and Design. Drives. Electrical, Electronic and Magnetic Components. Mechanical Movements and Linkages. Miscellaneous Design Aids. Shaft Seals. Springs. Welding and Brazing.

GREENWOOD—Engineering Data for Product Design

By DOUGLAS C. GREENWOOD, *Product Engineering.*

448 *pp.*, 8½ *x* 11, 635 *illus.* (1961)..$11.00*i*

A handy source of facts, formulas, ideas, drawings, and tables to help the product engineer solve a wide range of problems in product design. Based on material specially chosen from the pages of *Product Engineering*, this quick-aid data gives coverage to such modern topics as: dielectric heating, nameplates, metal whiskers, radiation characteristics of metals, hi-temp spring materials, polyamide-cured epoxy, applications of radioisotopes, and more. Hundreds of illustrations are included.

CONTENTS—General Engineering. Metals and Alloys. Non-metallic Materials and Finishes. Component and General Design Analysis. Beams, Torque and Moment of Inertia. Bearings and Shafts. Gears. Springs and Vibration. Mechanical Control. Fastening and Joining. Electricity and Electronics. Hydraulics and Pneumatics.

GREENWOOD—Mechanical Power Transmission

Component Selection and Application

By DOUGLAS C. GREENWOOD, Editor, *Product Engineering.*

372 *pp.*, 6 *x* 9, 251 *illus.* (1962)....$12.00*i*

Presents in one convenient source all the information needed to select, design, and apply mechanical power-transmission components. Designed to help solve day-to-day problems in mechanical power transmission, this master reference gives complete design-application coverage—from how to design a sliding bearing to when to select a speed reducer—from power belting and belt drive pulleys to dynamic shaft seals and AC/DC motors. Contains a wealth of concise information: tables of significant facts about materials, design and lubrication, graphs, formulas, and scores of helpful illustrations. Each chapter covers a basic area of mechanical power transmission; each family of components is broken down into specific types; and each specific type is presented with pertinent details about its operation and application characteristic. Fully covers recent advances in the field, including superstrength belts, nylon components, air bearings, special seals, magnetic-particle clutches, and many others.

CONTENTS—BELT AND CHAIN DRIVES. Power Belting. Pulleys and Drive Arrangements. Chain Drive. SHAFTING AND SEALS. Shafting. Dynamic Shaft Seals. BEARINGS. Selection of Bearing Type. Sliding Bearings. Ball and Roller Bearings. COUPLINGS AND CLUTCHES. Couplings. Clutches. GEARING AND SPEED REDUCERS. Gear Drives and Speed Reducers. ELECTRIC MOTOR SELECTION. Electric Motors.

LAUGHNER AND HARGAN—Handbook of Fastening and Joining Metal Parts

By VALLORY H. LAUGHNER, Val Laughner Associates, and AUGUSTUS D. HARGAN, Bell Telephone Laboratories, Inc.

622 *pp.*, 8½ *x* 11, *over* 3500 *illus.* (1956) $20.00*hb*

A handy guide for comparing various techniques when you must fasten or assemble a product. Use of screw thread and nuts, various types of welding, collars, couplings, keys, brazing, and soldering is described in detail, and there are data on standards, suitability of various methods for different metals and dissimilar metals, and strengths. Discusses special techniques for welded frames for machines and for retaining rings, and shows how to avoid loosening of threaded members. A helpful section lists types of resins and adhesives that can be used for fastening metal to metal, and metal to other materials, indicating advantages and disadvantages of each, and giving recommendations for joint design.

CONTENTS—Screw Threads and Pipe Threads. Screws, Bolts, and Nuts. Locking Nuts, Washers, and Retaining Rings. Practical Considerations in the Design of Screw Fastenings. Riveting, Setting, and Staking. Welding with Pressure. Gas, Arc, and Thermit Welding. Brazing and Soldering. Adhesives and Adhesive-bonded Joints. Collars, Couplings, and Clutches. Keys, Splines, and Interference Fits. Other Assembly Methods. Integral Fastenings, and Specialty Fasteners. Index.

LEWIS AND STERN—Design of Hydraulic Control Systems

By ERNEST E. LEWIS and HANSJOERG STERN, both General Electric Co. *Series in Cont. Syst. Engg.*

360 *pp.*, 6 *x* 9, 249 *illus.* (1962)....$12.50*r*

A handy reference guide for systems design engineers engaged in designing and developing modern hydraulic control systems. The book analyzes numerous important control systems . . . fully discusses the problems involved in selecting dynamically adequate components, circuitry, and auxiliaries to perform specific control tasks. Important design considerations related to materials selection, component design, and circuit arrangement are also discussed, as are newer developments in the use of high-temperature hydraulic fluids, servomechanical control systems, hydraulic feedback control circuits, and more.

CONTENTS—Characteristics of Hydraulic Control Components. Hydraulic Fluid Characteristics. Materials in Hydraulic Circuits. Components and Elements for Circuit Design. The Feedback Control Approach. Derivation of Component Transfer Functions. Measuring Control Dynamic Characteristics. Computer Simulation Techniques. Hydraulic Control Circuits. Hydraulic Design Practice. Appendixes: JIC Hydraulic Standards. Standard Graphical Symbols. Hydraulic Circuit Diagrams. Glossary. Commonly Used Hydraulic Standards and Specifications.

Plant Engineering

PLANT ENGINEERING HANDBOOK

By WILLIAM STANIAR, Editor-in-Chief, Prepared by a Staff of Specialists. Second Edition.
2391 *pp.*, 6 *x* 9, 1664 *illus.* (1959).....$25.00*hb*

A vast compilation of information covering all the important elements of plant organization, design, construction, operation, and maintenance, showing how any industrial plant can be run more efficiently and economically. Gives the essentials of good practice in the economic, mechanical, chemical, and power areas of modern industrial plant operation—the principles observed by the country's leading manufacturing enterprises—methods these companies find effective—basic treatises on many subjects—a fund of data, formulas, tables, graphs, and quick-reference information. Added coverage is included in this edition on such topics as automation, industrial electronics, job evaluation, standardization of engineering practices, materials handling, and much more.

LIST OF SECTIONS—BASIC INDUSTRIAL COSTS AND COSTS REDUCTION. MANAGEMENT ENGINEERING. STANDARDIZATION OF ENGINEERING PRACTICES. FOUNDATIONS AND REINFORCED CONCRETE. MATERIALS OF CONSTRUCTION. INDUSTRIAL PAINTING. HEATING FOR INDUSTRIAL BUILDINGS. INDUSTRIAL-PLANT FIRE PREVENTION AND PROTECTION. ENGINEERED PLANT MAINTENANCE. INDUSTRIAL-PLANT POWER DISTRIBUTION AND LIGHTING. INDUSTRIAL WATER PURIFICATION AND TREATMENT. POWER PLANTS. ELECTRIC MOTORS. REFRIGERATION. CARBON AND GRAPHITE. PROCESS INSTRUMENTATION. AUTOMATION. INDUSTRIAL PIPING. INDUSTRIAL RUBBER HOSE. WELDING AND BRAZING. MECHANICAL POWER TRANSMISSION. TORQUE AND TENSION CONTROL AND TORQUE AMPLIFICATION. ELECTRICAL SPEED CONTROL. ANTIFRICTION AND OIL-FILM BEARINGS. HYDRAULIC POWER SYSTEMS. LUBRICATION. MECHANICAL PACKINGS. MATERIALS HANDLING. INDUSTRIAL PROCESS AIR CONDITIONING. METALLURGY AND CORROSION. INDUSTRIAL WASTE DISPOSAL. HEAT TRANSFER. THERMAL PROPERTIES OF MATERIALS. INDUSTRIAL ELECTRONICS. PHYSICS IN THE INDUSTRIES. GRAPHICAL MATHEMATICS. VIBRATION. AUTOMATIC WEIGHING AND PROPORTIONING. INDUSTRIAL CONTAINERS AND PACKAGING EQUIPMENT. INDUSTRIAL GLASS. PLASTICS AND RUBBER. PATENTS AND COPYRIGHTS.

Firefighting

WALSH—Firefighting Strategy and Leadership

By CHARLES V. WALSH, Deputy Chief of the New York Fire Department.
271 *pp.*, 6 *x* 9, *illus.* (1963).....$11.00*i*

This book, as a guide and training manual for fire officers, is concerned less with axe-swinging techniques than with the strategic aspects of firefighting. It describes how to size up the special problems presented by every fire, how to determine the relative priorities of each, and how to utilize the best methods in deploying men and equipment to solve them. The book is divided into four parts: 1) Combustion and Extinguishment—nature of heat and flame; the mechanism of extinguishment; specific extinguishing agents and their applications. 2) Sizing up the Fire—classes and phases of fires; critical factors like life hazard, location or extent; the construction, occupancy, and contents of the building; weather conditions and exposures. 3) Strategy—how plans of action are prepared; ways in which engine companies, ladder companies, and rescue and squad companies should be utilized; chapters on apparatus and equipment, and on such unusual fires as those in subways or waterfronts. 4) Leadership—application of management techniques to the fire service; discussions of direction and command, discipline, morale, planning and policy making.

Inspection

ARMSTRONG—Mechanical Inspection

By W. H. ARMSTRONG, formerly West Virginia University.
361 *pp.*, 6 *x* 9, 296 *illus.* (1953)....$6.50*v*

An elementary book prepared to train personnel for employment as inspectors in machine shops and related industries. Includes information about blueprint reading, a survey of the non-precision and precision measuring tools that the inspector uses, instruction in the use and care of measuring instruments, a brief explanation of the mathematics of inspection, with the relationship between inspection and statistical quality control. Text has handbook tables, standard data, operators' instructions and similar materials.

CONTENTS—Introduction. Blueprint Reading. Standards of Length. Metal Fits. Non-precision Measuring Tools. Reference Surfaces. Precision Linear Measuring Tools. Precision Gage Blocks. Equipment for Measuring with Light Waves. Plain Gages. Indicating Gages and Comparators. Optical Measuring Instruments. Measuring Angles and Tapers. Measuring Screw Threads. Gear Inspection. Hardness Testing. Measurement of Surface Finish. Inspection to Reveal Surface and Subsurface Flaws. Statistical Quality Control.

McGONNAGLE—Nondestructive Testing

By WARREN J. MCGONNAGLE, Argonne National Laboratory.
455 *pp.*, 6 *x* 9, 448 *illus.* (1961).....$16.75*i*

Fully covers the field of nondestructive testing. Stressed throughout are physical principles telling the what, why, how, when, and where of nondestructive testing. Advantages and disadvantages of various techniques are completely discussed. Includes such topics as visual testing, pressure and leak testing, penetrant inspection methods, thermal methods, X-ray radiography, gamma radiography, ultrasonics, dynamic testing, magnetic methods, eddy currents, electrical methods, mechanical measurements, miscellaneous tests, and thickness measurements.

CONTENTS—Introduction. Visual Testing. Pressure and Leak Testing. Liquid Penetrant Inspection. Thermal Methods. X-Ray Radiography. Gamma Radiography. Ultrasonics. Dynamic Testing. Magnetic Methods. Electrical Methods. Eddy Current Methods. Other Useful Testing Techniques. Thickness Measurements. List of Tables.

Maintenance

LINCOLN—Electrical Efficiency in Industrial Plants

A Practical Engineering Guide to Lower Power Costs

By EDWIN S. LINCOLN, Consulting Electrical Engineer.
235 *pp.*, 6 *x* 9, *illus.* (1960).....$9.50*i*

A practical guide to identifying and eliminating the sources of power loss and misuse and their resultant drain on industrial productivity. Fully explains how to make surveys of load, power factor, lighting, wiring, voltage, and electrical protection. All necessary instruments are discussed in detail, with emphasis on their selection, use, and maintenance. Includes an analysis of power costs with particular attention to methods of lowering rates by minimizing peak demands. Fully covers such

troublesome matters as power factor, choice of voltage, safety, inspection, and maintenance.
CONTENTS—1. Electrical Economy. 2. Power System Design. 3. Power System Circuits. 4. Voltage Selection. 5. Power Factor Correction. 6. Conducting Electrical Surveys. 7. Analyzing Electrical Systems. 8. Electrical Instruments. 9. Safety, Inspection, and Maintenance. Glossary. Index.

MORROW—Maintenance Engineering Handbook
Edited by L. C. MORROW, *Factory Management and Maintenance.*
1462 *pp.*, 6 *x* 9, 728 *illus.* (1957)..$23.50*hb*
A comprehensive, authoritative handbook of the whole modern maintenance function. From it the reader will gain a thorough knowledge of the fundamentals and procedures essential to keeping industrial production moving without interruption and at lowest cost consistent with quality of product. The technicalities of the upkeep of buildings, mechanical, electrical, and servicing equipment are covered, also such problems as stores and their control, lubrication, instruments, sanitation, welding, and corrosion. In addition, the management end of maintenance is fully covered, including organization of maintenance personnel, training, planning of work, project control, and costs and budgets.
CONTENTS—Organization and Administration of the Maintenance Forces. Maintenance Personnel Administration. Planning and Scheduling Maintenance Work. Project Control. Costs and Budgets for Maintenance Operations. Maintenance of Buildings. Maintenance of Electrical Equipment. Maintenance of Mechanical Equipment. Maintenance of Service Equipment. Maintenance of Transportation Equipment. Maintenance Stores and Their Control. Lubricants and Lubrication. Instruments and Instrumentation. Sanitation and Housekeeping. Welding. Corrosion.

PLANT ENGINEERING—Plant Engineering Practice
By THE EDITORS OF PLANT ENGINEERING.
694 *pp.*, 8¾ *x* 11⅛, *illus.* (1958)....$18.50*i*
Over 100 experts provide authoritative solutions to hundreds of problems in every area of plant operation and maintenance. Each of the 226 separate studies is practical, clear, factual. Divided into 13 major chapters, this practical book contains hundreds of cost-cutting processes and ideas applicable to the needs of every plant. Here you will find needed information on maintenance, systems engineering, landscaping, heating, lubrication, transportation, fire prevention and safety, employee facilities, and much more. Contains over 600 photographs, over 200 drawings, charts, and tables—plus a complete 12-page master index listing over 3,000 references.
CONTENTS—Sites and Layout. Construction. Housekeeping and Safety. Materials Handling. Maintenance. Paints and Protective Coatings. Mechanical Power and Piping Systems. Electric Power. Lighting. Utilities. Heating, Ventilating, and Air Conditioning. Instrumentation and Quality Control. Shopwork. Index.

Piping

LITTLETON—Industrial Piping
By CHARLES T. LITTLETON, deceased. Second Edition.
349 *pp.*, 6 *x* 9, 203 *illus.* (1962)....$11.50*i*
Covers the latest developments, materials, and techniques in industrial piping systems. Presents a logical step-by-step design procedure for the reader to follow in designing any industrial piping system. Covers such important areas as flow sheets and design procedures, steam piping and condensate systems, valves—their selection and use, water piping and the Hazen-Williams flow formula, oil piping, the Reynolds number and Fanning formula, and much more.

CROCKER—Piping Handbook
By SABIN CROCKER, Ebasco Services, Inc. New York City. Fourth Edition.
1376 *pp.*, 4½ *x* 7½, 334 *illus.* (1945) $17.50*hb*
A vast compilation of data and methods for most effective use of piping. Puts at your fingertips all the principles that influence the design, construction, and use of piping systems. Covers fundamental principles of design, materials, and the following major fields of piping: power plant piping, gas piping, oil piping, water distribution and fire-protection piping, underground steam piping, plumbing systems, and building heating systems.
CONTENTS—Definitions, Formulas, and Tables. Fluids—Properties of Fluids. Metallurgy of Piping Materials. Pipe, Valves, and Fittings. Heat Insulation. Hangers and Supports. Expansion and Flexibility. Steam Power-plant Piping. Building Heating Systems. Plumbing Systems. Underground Steam Piping. Water-supply Piping. Fire-protection Piping. Oil Piping. Gas Piping. Refrigeration Piping. Corrosion. Hydraulic Power Transmission Piping. Index.

Plumbing

BABBITT—Plumbing
By HAROLD E. BABBITT, University of Illinois. Third Edition.
649 *pp.*, 6 *x* 9, 452 *illus.*, 260 *tables* (1960) $13.50*i*
Covers the theoretical, fundamental, and practical applications of plumbing from basic hydraulics, mechanics, and pneumatics to the design, materials, equipment, and appurtenances included in installation and repairs involved in the practice of plumbing. Fully revised to reflect all changes resulting from the 1955 National Plumbing Code. Includes added chapters on hot water supplies and storage tanks.

DAVIS—Plumbing, Heating, and Piping Estimator's Guide
By PAUL G. DAVIS, Supervisor of Mechanical Work, Gamble, Pawnall, and Gilroy
213 *pp.*, 5¼ *x* 8, 94 *tables and illus.* (1960) $8.00*i*
A practical time-saver that provides tested, workable standards for jobs of all sizes. Fully detailed bid summary sheets for piping and for heating and plumbing establish a set procedure for take-off of material . . . cover all essentials of equipment and labor required for setting the equipment . . . help complete and check the bid, and set the final figure. Gives 75 "labor factor" tables pinpointing various elements of work involved and specific methods of cost analysis. Covers every important aspect that allows the estimator to handle his job more effectively and profitably.
CONTENTS—Explanation of Method. Overhead Expense. The Plumbing Estimate and Bid Summary. Plumbing Information Series. The Heating and Piping Estimate and Bid Summary. Heating and Piping Information Series. Plumbing and Material Tables. Heating and Piping Labor and Material Tables. Accounting Procedures.

MANAS—National Plumbing Code Handbook Standards and Design Information
Edited by VINCENT T. MANAS, Consulting Engineer.
503 *pp.*, 6 *x* 9, 389 *illus.* (1957)....$12.50*hb*
Offers clear, simple guidance to the National Plumbing Code, explaining and illustrating its meaning and intent, paragraph by paragraph, and including much related technical information and data to aid in the design and installation of plumbing, water supply, sewage, and

drainage systems that will meet Code standards.
CONTENTS—NATIONAL PLUMBING CODE. Definitions. General Regulations. Materials—Quality and Weight. Joints and Connections. Traps and Cleanouts. Interceptors and Backwater Valves. Plumbing Fixtures. Hangers and Supports. Indirect Waste Piping and Special Wastes. Water Supply and Distribution. Drainage System. Vents and Venting. Storm Drains. Inspection, Tests, and Maintenance. SUPPLEMENT TO CODE. Individual Water Supply. Individual Sewage-disposal System. Air Gaps. Backflow Preventers, and Drinking-fountain Standards. Sizing the Water-supply System. Guide on Administration. Mobile-home Standards. Mobile-home Parts Standards. TECHNICAL SECTION. The Building Drainage System. Demand and Discharge Rates of Plumbing Fixtures. Design Loads for Plumbing Systems. Capacities of Plumbing Stacks in Buildings. Capacities of Sloping Drains. The Venting of Building Drainage Systems. Strength of Buried Conduits under Earth Loads.

NIELSEN—Standard Plumbing Engineering Design

By LOUIS S. NIELSEN, State of New York Executive Department, Division of Housing.
312 *pp.*, 6 *x* 9, 40 *illus.* (1963).....$11.75*i*

This book presents modern engineering design of plumbing systems for buildings of all occupancy classifications. The text is kept in strict conformity with standard requirements of codes, while at the same time all significant variations in individual codes are noted. In this manner the engineering design features may be applied regardless of building locations. Architects, engineers, plumbing contractors, and builders will find this book an indispensable reference on standard design and economical practice.

Power

ELONKA AND ROBINSON—Standard Plant Operator's Questions and Answers

By STEVE ELONKA, *Power* Magazine; and JOSEPH F. ROBINSON, Board of Education, The City of New York. Two volumes (not sold separately).
538 *pp.*, 5⅜ *x* 8, 381 *illus.* (1959)...$14.95*i*

Gives over 1350 questions and answers to aid in passing examinations for the steam, refrigeration, and diesel engineer's license, and boiler operator's certificate. Based on a thorough review of all available operator examinations in the United States and Canada. Covers construction, operation, and maintenance of all power service equipment, gives scores of worked-out examples, and shows sketches required in examinations. Chapter on boilers makes full reference to ASME Boiler Code. Included is a special section on license requirements for stationary and marine plants in the United States and Canada.
CONTENTS—VOLUME I. Boilers. Steam Engines. Steam Turbines. Pumps. Instruments. Miscellaneous Problems. Electricity and Vacuum Tubes. Refrigeration. VOLUME II. Diesel Engines. Air Conditioning. Fuels and Firing. Compressed Air. Heat Exchangers. Gas Turbines. Cooling Towers. Building Heating. Lubrication. Nuclear Power. Safety. License Requirements for Stationary and Marine Engineers in the United States and Canada.

SCHEEL AND HEGEMAN—Gas and Air Compression Machinery

By LYMAN F. SCHEEL, Consulting Engineer; Assisted by ALANSON K. HEGEMAN, Vice-president (retired), Clark Bros. Co.
338 *pp.*, 6 *x* 9, 194 *illus. and tables* (1961) $12.50*i*

A convenient guide to the use of modern pneumatic machinery, providing ready reference on gas compression methods and data. Presenting a simplified solution for the practical operation of machinery in accordance with the technical thermodynamics, it helps you in determining size, performance, power, and limitations of all types of gas compressors; in selecting the most suitable types of machines, prime movers, and required accessories; and in planning the most economical installation and construction procedures. In addition, there is a wealth of special guidance for efficient machinery operation—including preventive maintenance programs, quick piping sizing checks, power costs, heat losses, etc. More than 150 illustrations and tables—plus hundreds of worked-out examples based on field experience—help make this a practical reference for controlling costs and insuring best results from compressed air power.
CONTENTS—Classification and Terminology of Piston Compressors. Thermodynamic Briefs. Work of Compression. Temperature of Compression. Displacement and Volumetric Efficiency. Compressor Valves and Their Losses. Control and Multistage Operation. The Centrifugal Compressor. Other Turbomachinery. Rotary Compressors. Fans, Blowers, and Ejectors. Lubrication. The Gas Engine. Other Prime Movers. Applications and Economics.

PIPPENGER AND KOFF—Fluid-power Controls

By JOHN J. PIPPENGER, Double A Products Co., and RICHARD KOFF, *Product Engineering* Magazine.
252 *pp.*, 6 *x* 9, 302 *illus.* (1959)....$10.25*i*

A thorough, practical guidebook on controls and valves for fluid power systems, describing their construction and operation, explaining their proper use in the hydraulic circuit, and showing how to maintain them for best service. The full range of valves for control is covered, from simple to complex, including those used in automated machines. The book also deals with pumps, reservoirs, piping, the development of hydraulic circuits, and methods of preventive maintenance and machine repair. A glossary of terms, the Joint Industry Conference Standards, and ASME symbols are included.
CONTENTS—Pressure Generators. Pressure Limiting Devices. Minimum Pressure Valves. Pressure Reducing Valves. Pressure Switches. Check Valves. Flow-control Valves. Directional Control Valves, Two-way. Directional Control Valves. Four-way Pilot Valves. Four-way Piloted Valves. Valve Manifolds and Panels. Reservoirs. Fluid Power Plumbing. Hydraulic Circuits. Maintenance. Glossary. Graphical Symbols for Fluid Power Diagrams. JIC Hydraulic Standards.

Rigging

ROSSNAGEL—Handbook of Rigging, 3rd Ed.
For Construction and Industrial Operations
By W. E. ROSSNAGEL, Consulting Engineer.
In Press

A practical manual for all rigging operations, whether in construction or industrial work. Slings, scaffolds, ladders, cranes, jacks, and other methods for hoisting and supporting weights are given detailed treatment, with emphasis on their safe and efficient management. Everything a rigger needs to know—from the way to determine the center of gravity and weight of a load to methods of splicing wire rope—is included.
CONTENTS—Fundamentals. Fibre Rope. Wire Rope. Chain. Slings. Structural Timber. Scaffold Planks. Testing Scaffold Planks. Swinging and Suspended Scaffolds. Scaffolding. Painting and Repairing Steel Stacks. Life Belts. Boatswain's Chairs. Life Nets. Portable Ladders. Strength Calculations for Timbers. Strength Calculations for Metal Beams. Cranes. Hoists, and Derricks. Handling Loads on Slings. Chain Hoists. Jacks, Rollers, Skids, and Transportation. Hoist Signals. Accident Prevention. Caring for the Injured. Useful Tables.

Tool and Die Engineering

TOOL ENGINEERS HANDBOOK

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, Frank W. Wilson, Editor-in-Chief. Second Edition.
2512 *pp.*, 6 *x* 9, 1701 *illus.* (1959) $25.00*hb*

A monumental reference volume covering all phases of planning, control, design, tooling, and other operations involved in the mechanical processing of finished products. It brings you the latest in tool design, fabrication, maintenance, and utilization—covers everything from product design and cost estimating . . . through the economical selection of machines, processes, and tools, to the analysis and improvement of setups and operations. All data, wherever possible and practicable, are based on published governmental, associational, and industrial company standards. Checked and rechecked for accuracy from cover to cover, its hundreds of definitions, symbols, equations, tables, charts, methods, practices, and procedures make it the most useful reference book in its field. The Second Edition reflects today's data, and also covers such new topics as organization for manufacturing, applied principles of automation, carbide tool materials, epoxies, coordination equipment, hard surfacing techniques, value analysis, and tool design for wood processing. In addition, the book now includes many new standards recently formalized: drafting room standards, throwaway-type tool tips, surface roughness, tool-steel classification, and others.

ASTME DIE DESIGN HANDBOOK

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, FRANK W. WILSON, Editor-in-Chief.
732 *pp.*, 6 *x* 9, *illus.* (1955) $18.50*hb*

Hundreds of outstanding practical designs for all types of dies proved successful by scores of companies in current *cold pressworking* practice. Simplified drawings exclude commonly known details to concentrate on novel or superior design details and include significant actual dimensions so they may be immediately used as is or easily adapted to another purpose. Includes full information on design of sheet metal products, processes planning, theory and calculations, dies sets and elements, presses and accessories, and materials.

CONTENTS—Pressworking Terminology. Stampings Design. Process Planning for Presswork Tooling. Shear Action in Metal Cutting. Cutting Dies. Bend of Metals. Bending Dies. Metal Movement in Forming. Forming Dies. Displacement of Metal in Drawing. Draw Dies. Dies for Large and Irregular-shaped Stampings. Rubber-pad and Hydraulic-action Dies. Compression Dies. Progressive Dies. Compound and Combination Dies. Miscellaneous Dies. Die Sets and Components. Feeding and Unloading Equipment. Die Setting and Maintenance. Pressworking Lubricants. Safety in Pressworking. Press Design and Application. Ferrous Die Materials. Non-ferrous and Nonmetallic Die Materials. Ferrous Stamping Materials. Non-ferrous and Nonmetallic Stamping Materials.

HANDBOOK OF FIXTURE DESIGN

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, FRANK W. WILSON, Editor-in-Chief.
479 *pp.*, 6 *x* 9, 502 *illus.* (1962) $15.00*hb*

A ready source of outstanding, tested designs for all types of jigs and fixtures proved successful in practice. Gives you hundreds of actual fixture designs for milling—drilling—boring—turning—bandsawing—broaching—shaping—planing—grinding—assembly—inspection—and many other operations. In addition, the Handbook also provides you with sound working knowledge of design principles, plus full discussions of predesign analysis and design procedures . . . helping you to gain fresh insight into the overall problems, and means and methods of workholding. Conveniently arranged according to classes of manufacturing operations to enable you to turn to a specific problem area and find a specific fixture design in a matter of minutes. Contains more than 350 designs.

CONTENTS—Predesign Analysis and Fixture Design Procedure. Principles of Locating and Positioning. Design and Mechanics of Clamping Devices. Drill Jigs. Boring Fixtures. Lathe Fixtures. Milling Fixtures. Band Saw Fixtures. Broaching Fixtures. Fixtures for Shaping and Planing. Grinding Fixtures. Assembly Fixtures. Inspection Fixtures. Miscellaneous Fixtures. Commercial Fixtures and Elements.

MANUFACTURING PLANNING AND ESTIMATING HANDBOOK

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS, FRANK W. WILSON, Editor-in-Chief.
849 *pp.*, 6 *x* 9, 339 *illus.* (1963) $22.50*hb*

This practical handbook covers in detail functional manufacturing planning after the product has been designed. Contains vital material on manufacturing analysis, material-handling analysis, equipment analysis and design, job rating and wage-incentive analysis, inspection and quality-assurance analysis, preliminary manufacturing cost estimates, manufacturing review and planning readjustment, and final manufacturing estimates. Prepared by the staff of ASTME, the book will be of interest to cost estimators, product engineers, manufacturing engineers, process engineers, planning engineers, production planners, methods engineers, tool engineers, and industrial engineers.

CONTENTS—Responsibilities and Functions of Manufacturing Engineering. Manufacturing Analysis. Cost Estimating. Examples of Cost Estimates. Manufacturing Processing. Manufacturing Process and Tool Selection. Planning for Quality. Paperwork Systems. Methods Engineering. Planning for Tool Design. Plant Layout. Production Scheduling and Control. Standards. Tolerance Charts. Manufacturing Tolerances. Manufacturing-time Forecasting Curves. Linear Programming. Machine and Tool Replacement Practices. Nomograms. Reference Tables.

Tool and Die Design and Use

AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS—Tooling for Metal Powder Parts

Edited by GEORGE H. DEGROAT, *American Machinist*.

242 *pp.*, 6 *x* 9, *illus.* (1958).....$8.00*i*

A practical design manual to help you solve problems arising in the production of metal powder parts. It emphasizes planning and tooling for such structural elements as cams, gears, levers, latches, and other parts especially adapted to metal powder production. The whole process is outlined and compared with other production methods, advantages and limitations are discussed, and actual case histories demonstrate both the planning and the economics of the process. On the technical side, the book covers fully the factors involved in designing parts, the production and preparation of powders, briquetting techniques, the design of briquetting tools, and such finishing processes as sizing, coining, machining, surface cleaning, plating, and heat treating.

CONTENTS—Planning and Economics for the Metal Powder Process. Design of Structural Metal Powder Parts. Production of Powders. Preparation of Powders. Briquetting Presses and Practice. Briquetting Tools. Sintering Structural Parts. Finishing Operations. Standard Definitions of Terms Used in Powder Metallurgy. References and Bibliography.

ASTME—Tooling for Aircraft and Missile Manufacture

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS. WALTER PRANGE, Editor.

In Press

Explains production planning and the manufacturing operations that are so critical in an industry characterized by low production runs, heavy design changes, and a fantastic order of reliability. Among topics treated are master and optical tooling, reference systems and lofting, bonding and welding, subassembly and assembly operations, equipment handling, the working of plastics, electron-beam and other sophisticated machining methods, and forming and forging techniques.

COLVIN AND HAAS—Jigs and Fixtures

By FRED H. COLVIN and LUCIAN L. HAAS. Fifth Edition.

410 *pp.*, 6 *x* 9, *illus.* (1948).....$7.50*i*

Covers all aspects of the design and use of jigs and fixtures, with emphasis on their economical use, and the principles of their design and construction. A great many typical jigs and fixtures in actual use are shown, with cost and other data to help machine shop men in adapting them to specific purposes. Includes special fixtures for both large and small jobs, such as the assembly and inspection of large airplane parts, and other fixtures for welding, assembly, and inspection.

DALLAS—Progressive Dies

Design and Manufacture

By DANIEL B. DALLAS, *The Tool and Manufacturing Engineer*.

301 *pp.*, 6 *x* 9, 363 *illus.* (1962)....$12.00*i*

Clearly explains the fundamental rules of good practice in designing and fabricating progressive dies. Here is full coverage of such operations as blanking, bending, forming, drawing, etc. The book gives practical guidance to aid in designing and building successful progressive dies. Various types are discussed in detail and numerous examples of each are given. In addition to conventional progressives, the book covers such specialized press tools as the transfer die, the carbide progressive, and the progressive draw die.

CONTENTS—Punches and Dies. Stock Guides. Strippers and Pilots. Cam Stages. Grinding Operations. Blank Development. Basic Types. Strip and Stamping Design. Conventional Progressive Dies. Progressive Transfer Dies. Carbide Progressive Dies. Basic Layout Practice. Design Practice. EDM and Progressive Dies. Progressive Die Mathematics. Progressive Die Check List.

DOEHLER—Die Casting

By H. H. DOEHLER, Doehler-Jarvis Corporation, New York City.

502 *pp.*, 6 *x* 9, 281 *illus.* (1951)....$15.00*i*

A complete coverage of the production, engineering, and materials of die casting, written by one of the pioneers in the field. Included in the great amount of production data given is material on such subjects as automatic ladeling, die selection and die manufacturing, and hydrauliscope analysis of injection processes.

CONTENTS—Die-casting Machines. Die-casting Dies. Theoretical and Practical Aspects of Die Casting. Design of Die Castings. Comparison of Die Castings with Other Production Processes. Die Steels. Die-casting Alloys. Finishing of Die Castings. Machining of Die Castings. Trimmings of Die Castings. Inspection of Die Castings. Estimating the Cost of Die Castings. Safety in the Die-casting Plant. Glossary of Terms Used in Die Casting.

DONALDSON AND LeCAIN—Tool Design

By CYRIL DONALDSON and GEORGE H. LeCAIN, Rochester Institute of Technology. Second Edition.

577 *pp.*, 6 *x* 9, 549 *illus.* (1957).....$7.50*c*

Written especially for class study with questions, drawing assignments, and references, this book provides a complete text for a course in tool design. This edition has many new problems and design projects. The text covers general methods and principles so that the student can translate new ideas into practical specifications for modern manufacturing methods.

CONTENTS—Introduction. Drafting Room Practice. Manufacturing Processes as They Affect the Designer. Properties of Materials. Tolerances and Allowances. Springs. Welding. Cutting Tools. Punch and Die Design. Gage and Gage Design. Elementary Jigs and Fixtures. Details of Jigs and Fixtures. Practical Design of Jigs and Fixtures. Construction of Brown and Sharpe Automatic Screw Machine. Tools Used on Brown and Sharpe Automatic Screw Machine. Cam Design. Turret Lathes.

NATIONAL TOOL, DIE, AND PRECISION MACHINING ASSOCIATION—Basic Die Making

Sponsored by NATIONAL, TOOL, DIE AND PRECISION MACHINING ASSOCIATION; written by EUGENE OSTERGAARD.

218 *pp.*, 8¼ *x* 11, 336 *illus.* (1963) $10.95*t*†

Covers the basic details and techniques of die theory and practice that the apprentice die maker must learn and acquire. Essential facts of cutting and forming operations are described and then related to the manner in which the dies must function in order to achieve the desired results. The text discusses primary die components such as punches, punch plates, die blocks, and strippers, as individual entities in addition to their function as part of the complete die.

CONTENTS—Principles of Blanking and/or Piercing Dies. Elementary Blanking Dies and Piercing Dies. Binding. Screw Holes and Dowel Holes. Die Life. Punches. Punches Mounted in Punch Plates. Pilots. Die Block Constructions. Strippers and Stock Guides. Shedders. Knockouts. Nest Gages. Pushers. Die Stops. Stock Material Utilization and Strip Layouts. Die Sets.

† *Textbook edition available at educational list price.*

Manufacturing Processes

ASME HANDBOOKS

Sponsored by the Metals Engineering Handbook Board, American Society of Mechanical Engineers. A four-volume handbook bringing together a great deal of helpful information for designers, draftsmen, and engineers in the product design, manufacturing, and production engineering groups. Explanatory treatises and reference data from many sources are combined to make a thorough and comprehensive work—an outstanding tool to save designers time in searching among dimensional standards, metal specifications, and literature relating to factors of good design and finish.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—ASME HANDBOOK—Metals Properties

Edited by SAMUEL HOYT, Battelle Memorial Institute.

445 *pp.*, 7¼ *x* 9¼, 531 *illus.* (1954) $12.00*hb*

In this volume of the *Handbook* the properties of over 500 metals are considered and data tabulated on strength, hardness, machinability, electrical conductivity, thermal conductivity, and composition.

CONTENTS—Iron. Cast Irons. Cast Steels. Wrought Steels. ASTM Steels. AISI Steels. Copper and Copper Base Alloys. Aluminum and Aluminum Base Alloys. Nickel and Nickel Base Alloys. Lead and Lead Base Alloys. Tin and Tin Base Alloys. Magnesium and Magnesium Base Alloys. Cast Super Alloys.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—ASME HANDBOOK—Engineering Tables

Edited by JESSE HUCKERT, Ohio State University.

692 *pp.*, 7¼ *x* 9⅞, 611 *tables* (1956) $17.50*hb*

CONTENTS—Bar Stock and Shafting—Conversion Factors—Formulas for Stress and Strain—Properties of Sections and Cylinders. Bearings—Bearing Load Analysis. Spur Gears. Helical and Herringbone Gears. Bevel Gears. Worm Gears. Cylindrical Fits—Standard Tapers. Keys and Keyseating. Bolts—Counterbores—Screw Threads—Slots—Broached, Drilled, Reamed, and Tapped Holes. Serrations and Splines. Nuts—Pins—Snaprings—Washers—Wrench Openings. Springs. Aircraft and Mechanical Tubing—Pressure Tubes—Pipe—Pipe Threads and Fittings. Electric Motors—Graphical Symbols—Welding. Gaskets—Hydraulic Standards and Symbols—O-Rings—Packings—Seals. Bibliography.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—ASME HANDBOOK—Metals Engineering—Design, 2nd Ed.

Edited by OSCAR J. HORGER, Railway Division, Timken Roller Bearing Co.

In Press

Discusses machinability, strength, and other characteristics of metals, and explains their significance to the engineers and draftsmen designing metal products.

CONTENTS—Selection of Materials. Mechanical Properties of Metals in Design. Significance of Mechanical Properties Data. Temperature Considerations in Design. Plasticity Considerations in Design. Residual Stresses. Vibration Considerations in Design. Plates and Shells. Fatigue Characteristics in Design. Fatigue Considerations Resulting from Processing. Bearings, Friction, Wear, and Lubrication Considerations. Shock and Impact Considerations in Design. Other Physical Properties Affecting Design. Corrosion. Radiation Properties. Electrical Properties. Non-Destructive Testing. Magnetic-Particle Inspection. Ultrasonic Testing and Inspection. X-Ray Examination. Electrical Methods. Core-Loss Principle. Magnetic and Electromagnetic Methods. Design Considerations. Design Practice. Design Theory. Experimental Design. Surface-Finish Requirements in Design.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS—ASME HANDBOOK—Metals Engineering—Processes

Edited by ROGER W. BOLZ, Editor, *Automation.*

448 *pp.*, 7¼ *x* 9⅞, 512 *illus.* (1958) $13.50*hb*

Covers designing for the basic processes such as casting, forging, stampings, metallizing, milling, turning, spinning, welding, etc., their scope, advantages and limitations as to suitable materials, tolerances practicable, and surface roughness characteristics.

CONTENTS—PART ONE: HEAT TREATMENT OF STEEL. PART TWO: CASTING. Sand Casting. Centrifugal Casting. Permanent-mold Casting of Aluminum. Permanent-mold Casting of Gray Iron. Die Casting of Zinc Alloys. Plaster-mold Casting. Investment Casting. PART THREE: HOT WORKING. Extrusion of Aluminum. Extrusion of Magnesium Alloys. Extrusion of Copper-base Alloys. Forging. Electric-resistance Upsetting. Cored Forging. Hot Forming, Bending, and Drawing. PART FOUR: COLD WORKING. Cold Drawing. Cold Heading. Thread and Form Rolling. Metal Spinning. Stamping and Drawing. Design Tips for Stamping. Rubber Hydropress Forming. Stretch Forming. Drop-hammer Forming. Press-brake Forming. Cold Bending of Shapes. Roll Bending. Cold-roll Forming. Wire Forming. PART FIVE: POWDER METALLURGY. Powdered-metal Friction Material. PART SIX: WELDING AND CUTTING. Flame Cutting. Welding Processes. Design for Welding. Resistance Welding. Furnace Brazing. Soldering. Metallizing. PART SEVEN: MACHINING. PART EIGHT: FINISHING. Cleaning of Metals. Barrel Tumbling. Brushing, Polishing, and Buffing. Coating and Protection. PART NINE: ELECTROFORMING.

LE GRAND—The New American Machinists' Handbook

Edited by RUPERT LEGRAND, *American Machinist.* Based upon earlier editions of *American Machinists' Handbook,* edited by FRED H. COLVIN and FRANK A. STANLEY.

1572 *pp.*, 5⅜ *x* 8, *over* 1000 *illus.* (1955) ..... $15.00*hb*†

Quick answers to practical problems in metalworking are brought together in this invaluable shop aid for machinists, designers, draftsmen, and engineers. In one volume, it presents a storehouse of useful tables and formulas plus a convenient-sized encyclopedia that brings the reader abreast of modern metalworking methods, material, and equipment. All the processes involved in manufacturing a metal product are covered in detail. This handbook makes instantly available

† *Textbook edition available at educational list price.*

a wealth of data on machining, metal forming, assembly, materials, metals finishing, inspection, fastening devices, tool engineering and drafting, machine-tool standards, and power transmission, plus mathematics and tables.

CONTENTS—MACHINING METHODS. Broaches and Broaching. Drills and Drilling. Files and Burrs. Gears, Splines, and Serrations. Grinding, Honing, Lapping, and Superfinishing. Milling and Milling Cutters. Planing and Shaping. Reamers and Reaming. Saws and Sawing. Threading Processes and Thread Systems. Taps and Tapping. Turning and Boring. Screw-machine Work. METAL-FORMING METHODS. Metal Spinning. Pressworking and Cold-roll Forming. Forging. Upsetting and Cold Heating. Cold Working of Metals. Die Casting. Babbitting of Bearings. ASSEMBLY METHODS. Arc Welding and Surfacing. Gas Welding and Oxygen Cutting. Resistance Welding. Brazing. Soldering and Soft Solders. MATERIALS. Steels and Irons. Nonferrous Metals. Heat-treatment of Metals. Gages. Tolerances, and Weights of Metal Products. FINISHING OF METALS. Metal-cleaning Processes. Plating and Metal Coating. Paint and Painting. Electrolytic and Chemical Finishes for Metals. INSPECTION. Limits. Fits and Tolerances. Measuring and Gaging Equipment. Tapers and Dovetails. FASTENING DEVICES. Bolts, Screws, Rivets, and Washers. Keys and Pins. TOOL ENGINEERING AND DRAFTING PRACTICE. Jig and Fixture Details. Drafting Practice and Engineering. Surface Finish. MACHINE-TOOL STANDARDS. Standard Machine-tool Elements. Machine-tool Inspection. POWER-TRANSMISSION EQUIPMENT. Chains, V-belts, and Motors. MATHEMATICS AND TABLES. Mathematics. Reference Tables.

Methods and Analysis

CAMPBELL—Principles of Manufacturing Materials and Processes

By JAMES S. CAMPBELL, University of California, Berkeley.

674 *pp.*, 6 *x* 9, 68 *illus.* (1961).....$9.95*c*

This text has been prepared as a basic approach to the fundamental principles involved in manufacturing materials; it answers the "how" and "why" of important manufacturing processes, and reveals their relationship with allied engineering subjects, such as chemistry and physics. This study is presented in a manner acceptable to modern engineering standards. It describes the basic principles involved, and establishes a firm foundation for problem solving.

CONTENTS—Introduction. Measuring and Gaging. Metallurgy and Metals. Heat Treating of Metals. Molds and Cores for Sand Castings, Smaller Quantity Production. Solidification. Gaging, and Risering. Sand Molding, Large Quantity Production. Melting. Cleaning and Finishing. Sand Casting Processes. Powder Metallurgy. Plastic Flow and Mechanical Working Fundamentals. Rolling and Forging. Other Mechanical Working Processes. Welding, Brazing, and Soldering Processes. Plastics and Their Molding and Forming. Metal Cutting in Machining. Machining with the Shaper and Planer. Machining of Cylindrical Holes. The Lathe Family of Machining Tools. Milling and Similar Machining Processes. Abrasive Machining Processes, Sawing Broaching, and Gear Cutting. Recent Developments in the Manufacturing Processes.

DeGROAT—Metalworking Automation

By GEORGE H. DEGROAT, *American Machinist/Metalworking Manufacturing.*

332 *pp.*, 6 *x* 9, 200 *illus.* (1962)....$11.50*i*

Discusses latest advances in the automation of the metalworking industry, and explains how important and useful automation is in low-volume production plants and in small plants where automation is used for mass production. Provides practical guidance on every aspect—from planning for automation and designing parts and products for easier production, to today's best automated techniques and applications in machining, pressworking, heat-treating and finishing, assembly, and testing and inspection. Describes various degrees of automation that range from an automatic fixture at a single machine to the most sophisticated form of complete automation. Specific steps for applying automation in major metalworking processes are emphasized, as well as important developments in methods, materials, and equipment. Illustrated with over 250 photographs, diagrams, and tables, plus scores of detailed case histories.

CONTENTS—Automation Today. Planning for Automation. Designing for Automation. Components of Automation. Combined Operations. Automation in Machining. Automation in Pressworking. Automation in Heat Treating and Finishing. Automation in Assembly. Automation in Inspection and Testing.

GADZALA—Dimensional Control in Precision Manufacturing

By JOHN L. GADZALA, Boeing Airplane Co., Seattle, Washington.

203 *pp.*, 5⅝ *x* 8⅜, 165 *illus.* (1959)..$8.50*i*

A practical manual stressing the importance of the need for a better understanding of dimensioning and dimensional tolerances at all levels of the machine tool industry. Helps eliminate costly errors in dimensional planning in a sequence of machining operations for a production part; clarifies and simplifies dimensional planning; supplements the knowledge of both new and experienced engineers in matters pertaining to dimensions, dimensioning, and dimensional controls; and shows the importance of detailed planning in preparation for production of machined parts at low unit cost.

KISSAM—Optical Tooling

For Precise Manufacture and Alignment

By PHILIP KISSAM, Princeton University.

288 *pp.*, 6 *x* 9, 282 *illus.* (1962).....$9.75*c*

Discusses a recently-developed engineering technique used in industry for precise measurement and alignment. Optical tooling provides an extraordinary accurate means of controlling the size, position, shape, and alignment of jigs, products, machinery, and launching devices which range in size from small gears to rocket testing tracks. The technique consists of methods of using very precise instruments of the same nature as very precise surveying instruments, but capable of many operations that surveying instruments cannot perform. This book describes the instruments and the fundamental procedures for using them; discusses in detail the theory of each instrument, together with the proper and improper methods of using it. The complete test and adjustment of each instrument is described.

CONTENTS—The Optical Tooling Method. Properties of Light. The Geometry of Refraction. The Geometry of Reflection. Diffraction and Resolution. The Principles of a Telescopic Sight. Telescopic Sights. Targets and Length Measurement. Optical Tooling Levels. Leveling Procedure. Jig Transits. Instrument Supports. The Alignment Telescope. Optical Tooling Procedures. Tests and Adjustments of Instruments.

SCHALLER—Engineering Manufacturing Methods

By GILBERT S. SCHALLER, University of Washington. Second Edition.

682 *pp.*, 6 *x* 9, 479 *illus.* (1959).....$9.50*c*

Covering every phase of engineering manufacture, this book gives a sound and complete treatment of fundamentals, emphasizing modern methods, equipment, and theories. An introductory chapter deals with the broader aspects of management administration as applied to manufacturing; a treatment of engi-

neering materials gives special attention to the newer ones—aluminum, magnesium, cermets, plastics, etc. The use of Olivine and Zircon, CO_2 core and molding methods is emphasized. Thoroughly revised, this Second Edition contains new information on nucleonics and cybernetics, new cold-shaping ideas, the latest techniques in molding and automation, and an important chapter on transfer and automation in machining and numerical control.

CONTENTS—Engineered Manufacturing. Ferrous Metals. Non-Ferrous Metals and Plastics. Powder Metals and Cermets. Patterns for Metal Castings. Sands for the Foundry. Gating and Risering Metal Castings. Sand Casting. Sandless Casting Methods. The Melt Shop. Methods of Cleaning Castings. Cold Shaping. Hot Shaping. Heat Treating. Turning Lathes. Turret Lathes. Automatic Lathes. Chucking and Screw Machines. Numerical Control for Machine Tools. Screw Threads. Boring. Drilling. Planing, Shaping, and Slotting. Milling. Broaching. Gearing. Grinding and Finishing. Transfer and Special Machines. Machining and Cutting Elements. Measuring. Welding Basics. Arc Welding. Gas Welding. Brazing and Brass Welding. Resistance Welding. Automatic and Specialized Welding Arcs. Auxiliary Torch and Arc Applications. Index.

EKEY AND WINTER—Introduction to Foundry Technology

By D. C. EKEY, Georgia Institute of Technology, and W. P. WINTER, The Pennsylvania State University.

296 *pp.*, 6 *x* 9, 108 *illus.* (1958).....$7.00*c*

Introduces the engineering student to the basic concepts of foundry technology. The work is presented in abbreviated outline form permitting a comprehensive coverage in minimum time, and avoiding embellishment with figurative language. The book is divided into two sections: the first comprises a series of lectures on the theoretical aspects of foundry technology, the second is a "Practicum Section" providing operational information in the methodology of numerous foundry procedures and processes.

CONTENTS—Preface. Summary of Lectures. Lecture Series 1. Introduction to the Casting Processes. Lecture Series 2. The Nature of Sand Molds and Cores. Lecture Series 3. Mold Materials and Their Characteristics. Lecture Series 4. Testing of Mold Materials. Lecture Series 5. Patterns. Lecture Series 6. Permanent-mold and Die-casting Methods. Lecture Series 7. Centrifugal Casting, Investment Casting, and Other Processes. Lecture Series 8 Melting of Metals for Casting. Lecture Series 9. Molding Machines. Lecture Series 10. Mechanization and Automation of Foundry Operations. Lecture Series 11. Metallurgical Considerations of the Ferrous Alloys. Lecture Series 12. The Influence of Alloying Elements and Nonferrous Alloys. Lecture Series 13. Cleaning and Inspection of Castings and Casting Defects. Lecture Series 14. Pouring and Feeding of Castings and Solidification of Metal. Lecture Series 15. Fundamentals of Casting Design. Summary of Practicum Work. Information Sheet 1. Safety. Information Sheet 2. Assignment of Problems. Information Sheet 4. List of Materials and Equipment. Operation Sheet 1. Bench Molding. Operation Sheet 2. Coremaking. Operation Sheet 3. Shell Molding. Operation Sheet 4. Sand Testing. Job Sheet 1. Bench-molding Practice. Job Sheet 2. Sand-testing Problem 1. Job Sheet 3. Sand-testing Problem 2. Job Sheet 4. Bench-molding Practice. Job Sheet 5. Coremaking. Job Sheet 6. Pouring Aluminum in Molds Requiring Cores. Operation Sheet 5. Floor Molding. Job Sheet 7. Floor Molding. Experiment 1. Casting- and Mold-design Problems. Operation Sheet 6. Machine Molding. Job Sheet 8. Roll-over-pattern-draw Molding Machine. Job Sheet 9. Squeeze Molding Machine. Job Sheet 10. Jolt-squeeze Molding Machines. Operation Sheet 7. Cupola Melting. Job Sheet 11. Cupola Operation. Job Sheet 12. Shakeout and Sand Reclamation. Experiment 2. Metal Fluidity. Job Sheet 13. Shell Molding and Pouring Shells. Operation Sheet 8. Core-sand Testing. Job Sheet 14. Core-sand Testing. Operation Sheet 9. Metal Analysis. Job Sheet 15, Carbon and Sulfur Determination. Operation Sheet 10. Special Processes. Job Sheet 16. Special Processes. Experiment 3. Centrifugal Casting. References. Suggested Audio-visual Aids. Index.

ASME METALS ENGINEERING HANDBOOK LIBRARY $43.50*r*

Metals Engineering—Design
Metals Properties
Metals Engineering—Processes
Engineering Tables

Machine Tool Operation

ASTME—Numerical Control in Manufacturing

Prepared by the AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS. FRANK W. WILSON, Editor.

496 *pp.*, 6 *x* 9, 204 *illus.* (1963)....$15.00*i*

The control of machine tools through the automatic interpretation of instructions expressed as numerals has given engineers and management a new technique of tremendous potential. This work explores the financial costs and benefits of numerical control, its impingement on the labor force, its use in design, and its practical operation. Straight-cut and contouring control systems are discussed, as well as their effect upon the machine tools themselves. Methods of tooling, and of inspection and testing, are given specific coverage. There is also a thorough explanation of manual and computer programming, and the techniques of information processing and storage.

BLACK—Theory of Metal Cutting

By PAUL H. BLACK, Ohio University.

204 *pp.*, 6 *x* 9, 113 *illus.* (1961).....$7.95*c*

This book discusses the increasingly important field of the "metal-cutting mechanism," the mechanics of what happens at and near the cutting edge of a mechanical cutting tool during the machining process. Presenting general principles in the field to implement an understanding of the process, a step-by-step consideration of the elements involved reveals a reasonable and instructive picture which supplies quantitative information and sheds considerable light on metal-cutting specifications.

CONTENTS—Preface. Introduction. Structure and Strength of Metals. Mechanics of Metal Cutting. Basic Principles of Friction, Lubrication, and Wear. Cutting Fluids. Cutting Tools. Wear in Metal Cutting. Tool Life. Grinding of Metal. Three-dimensional Cutting. Unconventional Methods of Machining. Economics of Machining.

FEIRER AND TATRO—Machine Tool Metalworking

Principles and Practice

By JOHN L. FEIRER, Western Michigan University, and EARL TATRO, Bronx Vocational High School.

446 *pp.*, 7¼ *x* 9¼, 980 *illus.* (1961)..$6.20*v*

This book is an introductory textbook for vocational high school students taking a first course in machine tool operation, or for industrial arts students who have completed a course in general metalworking and wish further machine shop training. It gives the student basic understanding of machine shop work, emphasizing commonly used operations and fundamental principles, so that he can study more difficult and more complex applications as he meets them. Especially readable, with double-column format, it gives special attention to technical vocabulary, defining and explaining each new term. The book contains

nearly 1000 illustrations, and uses a second color—red—to reenforce teaching points of text and illustrations and to emphasize safety, cutting edges, mechanical movements and operations, and other important features. The 96 lesson units are grouped into 8 basic sections, and there are about 30 well-selected projects. A large number of questions and topics are provided at the end of each section.

SECTION HEADINGS—Introduction. Benchwork. Drilling Machines. Engine Lathe. Shaper. Milling Machine. Grinders. Related Information. Projects.

HINE—Machine Tools for Engineers

By CHARLES R. HINE, Zak Machine Works, Troy, New York. Second Edition.

445 *pp.*, 6 *x* 9 (1959).....$8.50*c*

Directed toward the engineer rather than the machinist, this book deals with the fundamentals of machine tools which every technical person in the field of manufacturing should know. It defines and compares each machine tool type; relates the quality and type of work of many machine tools to other tools; and gives numerous examples of actual cuts, speeds, production times and other valuable data.

CONTENTS—Preface. Acknowledgments. The Engineer and the Machine Tool Cutting Tools. Measurement. The Lathe. Hole Making and the Drill Press. The Shaper. The Planer. The Milling Machine. Broaching. Abrasives and Grinding. Microfinishes. Boring Machines. Jig Boring. Threads and Threading. Gear Making. Sawing. Turret Lathes. Automatic Machine Tools. Appendixes. Index.

KRAR AND ST. AMAND—Machine Shop Training

By S. F. KRAR, Welland Eastdale Technical School, Welland, Ontario, and J. E. ST. AMAND, Cayuga Vocational School, Cayuga, Ontario.

192 *pp.*, 7¾ *x* 9½, 300 *illus.* (*line-drawings*) $2.50

In addition to basic information, the book provides an inviting preview of more advanced concepts, so that the better students in regular classes and students in night-school and other "trade" courses will find this text a real stimulus toward a technical career.

Clearly written, well organized, and thoroughly illustrated, this book includes job-instructions as well as lucid explanatory text-matter on the most up-to-date practices. A considerable amount of reference material is given throughout the text, so that teachers and students have in convenient form all the data necessary for the complete understanding of the course.

CONTENTS—1. The Machine Age. 2. Machines Used in Machine Shop Training. 3. Safety. 4. Measuring Tools. 5. Layout Tools. 6. Metallurgy. 7. Hand Tools. 8. Power Saws. 9. The Drill Press. 10. The Engine Lathe. 11. The Shaper. 12. Milling Machines. 13. Grinders. 14. Heat Treating.

BURGHARDT, AXELROD, AND ANDERSON—Machine Tool Operation, Part I

Safety, Measuring Instruments, Bench Work, Drill Press, Lathe, and Forge Work

By HENRY D. BURGHARDT and AARON AXELROD, Vocational and Technical High School, Bayonne, New Jersey, formerly New York University. Fifth Edition.

585 *pp.*, 5½ *x* 8, 500 *illus.* (1959)....$5.75*v*

Workbook One and Tests—Safety, Measuring Tools, Bench Work, Drill-press and Forge Work (Axelrod and Anderson)

106 *pp.*, 8½ *x* 11, 12 *illus.* (1955)...$2.20*v*

Workbook Two and Tests—Lathe Work (Axelrod and Anderson)

142 *pp.*, 8½ *x* 11, 23 *illus.* (1955)...$2.40*v*

Fifth Edition.

588 *pp.*, 5⅜ *x* 8, 121 *illus.* (1959)....$8.75*t*†

The new Fifth Edition of this "bible" of the machine shop field brings all material in the text completely up to date. It contains many new illustrations, new information on surface measurement and turret lathes, new recommendations for cutting angles, and new material on gage blocks and dial indicators. These are only a few of the changes in the new edition. *Machine Tool Operation* presents all the material the machine shop student needs to know about the construction, operation, and safe use of standard machine tools used in the shop. It combines practical information with related trade information. The book is written in the language of the trade, using common names of tools and parts throughout.

CONTENTS—The Machinist's Trade. Safety in the Machine Shop. Measuring Tools of the Machine Shop. Hammers, Screw Drivers, Wrenches, Hacksaws. Chipping, Filing, Scraping. Laying Out. Drill Press Construction. Drills and Drilling. Other Drill-press Tools and Operations. Lathe Construction and Manipulation. Cutting Tools and Cutting Operations. Centering. Facing. Turning. Chucking Work. Tapers and Angles. Threads and Thread Cutting. Faceplate Work. Soldering, Brazing, and Babbitting. Hand Forging in a Machine Shop. Appendix. List of Tables.

BURGHARDT, AXELROD, AND ANDERSON—Machine Tool Operation, Part II

The Shaper, the Planer, the Milling Machine, the Grinding Machine, Hydraulics, Metal Band Saws, Metallurgy, Cutting Fluids

By HENRY D. BURGHARDT, AARON AXELROD, Vocational and Technical High School. Bayonne, New Jersey, and JAMES ANDERSON, Queen's Vocational High School. Fourth Edition.

677 *pp.*, 5½ *x* 8, 534 *illus.* (1960)..$9.25*t*†

The Fourth Edition of this book offers new work procedures and safety rules; new illustrations showing latest models of machines; new material on how to insure most safety through the right clothing and eye protection; and new material explaining the properties and uses of ferrous metals and alloys and the heat treatment of steel.

SECTION HEADINGS—Introduction. Safety. Measuring Tools. Bench Work. The Drill Press. The Lathe. Forge Work. Appendix. List of Tables.

FORD TRADE SCHOOL—Shop Theory

By the Shop Theory Department of the HENRY FORD TRADE SCHOOL, Dearborn, Michigan. Revised by FRED NICHOLSON, formerly Henry Ford Trade School. Fourth Edition.

329 *pp.*, 8 *x* 11, *illus.* (1955).....$9.25*t*†

Introduces the student to the tools, gages, devices, materials, and machines used in the metal manufacturing and machine tool industry. Gives instructions on the general and specific functions of each machine and includes illustrative examples of typical jobs in machining operations. A "first book" for future machinists, tool and die makers, mechanics, and production workers.

CONTENTS—Small Tools. Chisels and Chipping. Hack Saws and Sawing. Files and Filing. Soldering. Measuring Tools. Drills and Drilling Operations. Tapers. Threads. Gearing. Cutting Tools. Shaper. Planer. Lathes. Turret Lathes. Milling Machines. Gages and

† *Textbook edition available at educational list price.*

Gage Blocks. Heat Treatment. Abrasives and Grinding Wheels. Grinding Machines. Routing of Bench Tool Work.

NORDHOFF—Machine-shop Estimating

By W. A. NORDHOFF, Douglas Aircraft Company, Inc. Second Edition.

528 *pp.*, 6 *x* 9, 344 *illus.* (1960)....$11.00*i*

Gives methods and data for finding the time required to do machining operations as an aid to quick, reliable estimating. All the machining operations performed in the average shop are covered, with description of each machine and the work it does, data for making estimates of its operations, and a sample estimate. Based on the author's own time-study and estimating experience, time values are given for every operational element, which the estimator may combine to find total time for a specific job from setting up to completion. Second Edition discusses relation between production and horsepower available in the equipment. Tables have been increased and enlarged to include such information as power constants and horsepower factors, relative machining factors for various qualities of cutting materials and different types of cutting tools, estimating data for the turret drillpress, the Cri-Dan threading machine, and drilling by the electrical-discharge method. Machine-tool data of horsepower, spindle-speed, and feed ranges reflect modern operating conditions.

CONTENTS—The Machine-shop Estimator and His Function. The Estimator's Tools. How to Make Tables and Use Them. What Goes into an Estimate. This Thing Called Machinability. Machining Elements—Turning and Allied Operations. Machining Elements—Facing and Allied Operations. Machining Elements—Threading and Tapping Operations. The Turret Lathe Family. Automatic Screw Machines and Turret Lathes. The Vertical Turret Lathe. The Machine-shop Lathe (Engine Lathe). The Automatic Lathe. The Light Boring Mill. Drilling Machines and Drill Operations. Milling Machines and Milling Operations. Power Hack Saws and Abrasive-cutoff Machines. Oxyacetylene Metal Cutting. Appendices.

PARSONS—Estimating Machining Costs

By C. W. S. PARSONS, University of Southern California.

366 *pp.*, 6 *x* 9, 63 *illus.* (1957).....$9.00*i*

A guide to making satisfactory estimates of the costs of machine-tool operations. From it the reader will be able to study the engineering drawing of a particular work piece and decide how it can be made; make a breakdown analysis of the necessary operations and their elemental subdivisions, considering men, materials, tooling and machines; and put time and money values on the various factors contributing to the completion of the work.

CONTENTS—What Makes an Estimator. How the Cost Estimator Operates. How the Business Operates. How Engineering and Cost Estimating Are Tied In. Engineered Production. Metals and Metal Removal. Tool Life—A Prime Factor in Metal Removal. Technical Background of R-Factors. Qualities of Cutting-tool Materials, Multitooth Cutting Tools, Milling Cutters. R-Factors Continued. Cost Estimating Applications: A Drilling Problem. Radial Drill Operation. Boring Bar Operation. Shaping a Die Block. Milling Machine Operation. Turret Lathe Operation. Automatic Lathe Operation. Vertical Turret Lathe Operation. Detroit Broaching Machine. A Tough Facing Job. An Impact Turning Job. Operation with a Ceramic Tool. Further Cost-estimating Applications.

TURNER AND OWEN—Machine-tool Work

Fundamental Principles

By WILLIAM P. TURNER; and HALSEY F. OWEN, Purdue University. Second Edition.

364 *pp.*, 6 *x* 9, 434 *illus.* (1945).....$5.95*c*

Covers the fundamental problems that are common to all kinds of machine-tool work, including the lathe, planer, shaper, milling machine, and grinding machine. Basic principles are stressed, and methods have been selected which ensure correct fundamentals and ensure safety for the beginner.

CONTENTS—General Shop Instruction. Safety in the Shop. Machine-shop Materials. Cutting Speeds and Feeds. Measurement and Measuring Devices. The Lathe. Lathe-tool Shapes. Lathe Operation—Straight Turning. Taper Turning. Boring and Facing. Kinds of Fits and Fitting. Screws and Screw Threads. Lathe Operation—Screw Cutting. The Shaper. The Planer. The Milling Machine. Milling-machine Equipment. Gears and Gear Cutting. Turret Lathes and Their Operation. Automatic and Semi-automatic Lathes. Drilling and Drilling Machines. The Grinding Machine and Grinding Methods. Broaching and Broaching Machines. Problems in Machine-tool Work.

WAGE—Manufacturing Engineering

By HERBERT W. WAGE, Aeronutronic Division, Ford Motor Company.

344 *pp.*, 6 *x* 9, 102 *illus.* (1963).....$10.75*i*

A practical reference for manufacturing engineers, process engineers, toolmakers, tool designers, machinists, timestudy personnel, and production foremen in all phases of the metal-working industry. Presents new techniques for technicians interested in up-grading themselves to the engineering level. Covers such important topics as role of the production planner; service groups; preparing the cost estimate; cost estimating tables; developing the plan; and tolerance charts. Also provides detailed information on common metal-working materials—data on steel and aluminum; heat treating, plating and chemical finishing; planning operations requiring welding; numerical controls; production control; tool standards; cutting tools; and preparation, use, and flow of typical manufacturing engineering forms.

Casting and Forming Processes

CAMPBELL—Casting and Forming Processes in Manufacturing

By JAMES S. CAMPBELL, JR., University of California, Berkeley.

536 *pp.*, 6 *x* 9, 137 *illus.* (1950).....$8.50*c*

The aim of the text is to give a condensed description of each process included under the title, introduce the student to the mass production viewpoint, give important advantages and limitations of each process, and bring out any important design rules connected with each process.

CONTENTS—Introduction. Making a Simple Mold. Patternmaking. Molding Materials and Equipment. Molding Techniques. Types of Molds and the Materials Used. Making the Larger Molds. Solidification and Risering. Gating. Sand Testing. Pattern Equipment. Molding Machines. Cores and Coremaking. Forces within Molds. Metals for Sand Casting. Melting. Cleaning and Finishing. Organization. Modernization. Mechanization. Sand-casting Defects. Inspection. Sand-casting Design. Centrifugal Casting. Precision Investment Casting. Permanent Mold Casting. Die Casting. Plastics. Molding and Forming. Powder Metallurgy. Rolling. Forging. Miscellaneous Forging Processes. Sheet-metal Working. Punch-press Work. Index.

COOK—Engineered Castings

How to Use, Make, Design, and Buy Them

By GLENN J. COOK, General Electric Co.

257 *pp.*, 6 *x* 9, 139 *illus.* (1961).....$9.50*i*

Provides fundamental information in easy-to-use form for getting best industrial results in the design, application, and purchase of engineered castings. Covers such important aspects

as various types of castings and how they are made; selection of metals; design factors; and purchasing standards and procedures, including much that will be helpful to readers interested in the sale of castings. Gives practical data and facts on advantages and limitations of castings, their range of use, and future opportunities. Clearly describes recent advances in the field, and newer techniques in investment shell processes and induction stirring in arc furnaces. Includes reliable tables on design features and costs, as well as up-to-date methods for treatment of metals, shell molding, and ductile irons.

CONTENTS—Advantages and Limitations of Castings. Present Castings Uses. Future Opportunities. Sand Molding. Melting and Pouring. Shell Molding. Investment Molding. Permanent Molding. Die Casting. Cleaning Methods and Special Services. Inspection and Testing. Gray Iron. Malleable Iron. Ductile (Nodular) Iron. Steel. Vacuum Treated Metals. Nonferrous Metals. Designing for Casting Soundness. Designing for Low Cost. Tolerances to Expect. Engineering Help to Expect. Buying Patterns and Castings.

HEINE AND ROSENTHAL—Principles of Metal Casting

By RICHARD W. HEINE and PHILIP C. ROSENTHAL, University of Wisconsin. Prepared in cooperation with the Textbook Committee of the Education Division, American Foundrymen's Society, Des Plaines, Illinois.

639 *pp.*, 6 *x* 9, *illus.* (1955).....$8.50*c*

The arrangement of material is unique in that the principles associated with molding processes and materials, solidification of metals, and castings are presented first; then these principles are interpreted for the specific casting alloys; and finally the special metallurgical principles of melting, alloying, heat treating, and metallurgical processing are dealt with.

CONTENTS—Patterns. Molding Processes and Materials. Molding Equipment and Mechanization. Molding Sands. Cores. Core Materials. Solidification of Metals. Pouring and Feeding Castings. Metals Cast in the Foundry. Aluminum Foundry Practice. Aluminum Casting Alloys. Copper-alloy Foundry Practice. Copper-base Casting Alloys. Special Casting Alloys. Steel Foundry Practice. Steel Melting in the Foundry. Metallurgy of Cast Steel. The Family of Cast Irons. Melting of Cast Irons. Gray-iron Foundry Practice. Metallurgy of Gray Iron. Malleable Iron. Cleaning and Inspection. Casting-design Considerations.

Finishing Operations

BLUM AND HOGABOOM—Principles of Electroplating and Electroforming

By WILLIAM BLUM, U.S. Bureau of Standards, and GEORGE B. HOGABOOM. Third Edition.

455 *pp.*, 6 *x* 9, *illus.* (1949).....$11.00*i*

Completely summarizes methods of making electro deposits on more than 40 different metals, alloys, and plastics.

CONTENTS—Methods of Expressing Conditions of Operation. Principles of Chemistry. Principles of Electricity and Electrochemistry. Factors That Govern the Character and Distribution of Electrodeposits. The Selection, Specification, and Inspection of Electrodeposits. Analysis of Solutions. Preparation for Electroplating. Preparation for Electroforming and Electrotyping, and for Deposition on Plastics. Electrical Equipment. Tanks and Their Equipment. Types of Metals and Solutions. Group 1B Metals: Copper, Silver, and Gold. Group 2B Metals: Zinc, Cadmium, and Mercury. Group 3B Metals: Aluminum, Gallium, Indium, and Thallium. Group 4B Metals: Germanium, Tin, and Lead. Group 5B Metals: Arsenic, Antimony, and Bismuth. Group 6A Metals: Chromium, Molybdenum, and Tungsten. Group 6B Metals: Selenium, Tellurium, and Polonium. Group 7A Metals: Manganese, Technicium, and Rhenium. Group 8A Iron-group Metals: Iron, Cobalt, and Nickel. Group 8B Platinum-group Metals: Rhodium, Palladium, and Platinum. Alloy Deposition.

SIMPSON—Induction Heating
Coil and System Design

By P. G. SIMPSON, Chief of Industrial Electronics Laboratory, Redifon, Ltd., London, England.

256 *pp.*, 6 *x* 9, 188 *illus.* (1960)....$12.75*i*

Provides working information to help the engineer design, build, and test induction heating equipment, based on a required heat treatment process. Basic theories of induction heating are outlined, and particular advantages of each system are described in detail, together with modern applications. The book develops a logical procedure for designing a complete induction heating system—starting with a basis of electromagnetic and heat flow theory. Coil design problems are described and solved, and complete systems are built up. Also covered are such special topics as 60-cycle billet heating, dual-frequency systems, semiconductor zone refining at radio frequencies, saturable-reactor power control, frequency converter circuits, and other applications.

Welding

KERWIN—Arc and Acetylene Welding

By HARRY KERWIN, San Luis City Schools, San Luis Obispo.

250 *pp.*, 5¼ *x* 7¾, 201 *illus.* (1944)..$4.95*v*

A nontechnical book on acetylene and electric welding to give the beginner the basic step-by-step procedure and exact techniques for making a weld. Special welding methods applicable to general maintenance welding, shipyard, pipe line, and aircraft welding are stressed, and practical ways for controlling expansion and contraction, low heat brazing, alloy welding, and pattern layouts are given.

ROSSI—Welding Engineering

By BONIFACE E. ROSSI, Pressure Vessel Research Committee of the Welding Research Council; Stevens Institute.

786 *pp.*, 6 *x* 9, *illus.* (1954).....$10.00*c*

Covering welding completely in one volume, this is a concise, simplified, technically accurate book on welding processes, weldability of metals, design and fabrication techniques, and testing and inspection of welds.

CONTENTS—Preface and Acknowledgements. PROCESSES. A Survey of the Different Welding Processes and Their Basic Principles. Gas Welding. The Electric Arc and Its Application to Welding. Equipment and Materials for Bare and Shielded Metal-arc Welding. Bare and Shielded Metal-arc Welding. Submerged Arc Welding. Inert-gas-shielded Arc Welding. Atomic-hydrogen Welding. Resistance Welding. Soft Soldering, Brazing, and Braze Welding. Oxygen and Arc Cutting of Metals. Safe Practices and Health Precautions in Welding and Cutting. METALS AND THEIR WELDABILITY. Metallurgy of Welding. Weldability of Metals. DESIGN AND FABRICATION CONSIDERATIONS. Welded Design and Its Field of Applications. Designing for Welding: Types of Joints, Welds, and Stress Distribution. Layer Sequence, Deposition Rates, and Welding Costs. Expansion, Contraction, and Residual Stresses in Welded Structures. Welding Jigs. Standard Welding Symbols and Their Use. TESTING AND INSPECTION. Testing and Inspection of Welds. Appendixes. Index.

ROSSI—Welding and Its Application

By BONIFACE E. ROSSI, Pressure Vessel Research Committee of the Welding Research Council; Stevens Institute.

343 *pp.*, 6 *x* 9, *illus.* (1941).....$6.00*v*

Covers the various welding and cutting processes, their related phenomena, their techniques, and their general application in in-

dustry. All material represents the best current practice and methods in actual use.
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ROSSI—Manual of Instructions in Welding and Cutting
By BONIFACE E. ROSSI, Pressure Vessel Research Committee of the Welding Research Council; Stevens Institute.
99 *pp.*, 7½ *x* 10½ (1941).....$4.00*v*
Lesson sheets for use with *Welding and Its Application*. Each assignment covers theoretical principles, instructions, procedures, and questions. The first section covers electric arc welding; the second section covers oxy-acetylene welding.

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Crouse—Automotive Electrical Equipment
Crouse—How to Get Ahead in the Automotive Business

CROUSE—Automotive Mechanics
By WILLIAM H. CROUSE, formerly General Motors Corporation. Fourth Edition.
760 *pp.*, 6 *x* 9, *illus.* (1960).....$9.00*t*†
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CROUSE—Workbook for Automotive Chassis
By WILLIAM H. CROUSE, formerly General Motors Corporation. Second Edition.
71 *pp.*, 8½ *x* 11 (1956).....Paper $1.60*s*
A workbook correlated with *Automotive Mechanics, Automotive Chassis and Body*, and *Automotive Transmissions and Power Trains*, all by William H. Crouse. This workbook is a combination shop guide, study guide, notebook, and work-progress report, designed to cover every basic job on the subject. Contains shop and laboratory exercises that familiarize the student with the construction and operation of the automotive chassis and its related components. An invaluable teaching aid for the automotive mechanics instructor.
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CONTENTS—*Automotive Fuel, Lubricating, and Cooling Systems*. How to Study This Book. Automotive Fundamentals. Fuel-system Fundamentals. Fuel-system Operation. Carburetor Fundamentals. Automotive Carburetors. Fuel-injection and LPG Fuel Systems. Automotive-Engine Fuels. Diagnosing Fuel-system Troubles. Fuel-system Service. Carburetor Service. Engine Lubricating Systems. Lubricating-system Service. Engine Cooling System. Cooling-system Service. Appendix A: Exhaust-gas Analyzers. Appendix B: Glossary. Index.

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48 *pp.*, 5⅜ *x* 8 (1956).....$3.00*iL*

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COMMERCIAL TRADES INSTITUTE—Automatic Transmissions

Prepared by the Instructional Staff, Commercial Trades Institute, Chicago.

398 *pp.*, 6 *x* 9, 243 *illus.* (1955)....$5.75*v*

The principles, construction, and trouble-shooting data on automatic transmissions for automobiles are presented. The book relates the scientific principles involved in the operation of automatic transmissions and discusses the construction of each popular transmission in detail and *in conformance with motor car manufacturers' recommendations.*

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NASH—Automotive Fundamentals

By FREDERICK C. NASH, O'Neill Collegiate and Vocational School, Oshawa, Ontario.

225 *pp., illus. (line-drawings and photographs)* $2.75

This text is designed with skill and simplicity to suit the needs of beginning students in the Automotive Mechanics Course. One of the most noteworthy features of the text is its direct and fundamental approach to the essentials of automotive mechanics. Its compact and simply presented material could be covered in approximately 90 hours, facilitating the task of teacher and student. Practical assignments and Review Questions follow each chapter. These range from simple exercises designed especially for the beginning student, to the more complex for advanced students. The equipment required for these assignments is basic and should be available in any High School automotive mechanics shop. Each assignment is one complete job—e.g. the valve replacement of an overhead valve V-8 engine.

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By THEODORE A. WOHLFEIL, Denfeld High School, Duluth, Minnesota; ERIK E. FRISK, Duluth Vocational School, Duluth, Minnesota, and A. B. SAXMAN, Sun Oil Co.

151 *pp.*, 7¼ *x* 9⅞, 320 *illus.* (1952)..$5.00*v*

This book serves as a text and reference manual for persons in training and for mechanics in auto body repair and refinishing. It provides step-by-step directions for the performance of the basic operations of the trade.

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CHEMICAL ENGINEERS' HANDBOOK

Edited by ROBERT H. PERRY, Middle East Technical University; CECIL H. CHILTON, and SIDNEY D. KIRKPATRICK. *Chemical Engineering. Series in Chem. Engg.* Fourth Edition.

1842 *pp.*, 7¼ *x* 9⅞, 1842 *illus.* (1963).....$29.50*hb*†

† *Textbook edition available at educational list price.*

Through the efforts of the three chief editors, 26 section editors, and 109 contributors, the fourth edition of this classic reference work for the chemical engineer has been modernized and reorganized to reflect the close interrelationships of chemical principles with operating practice. This emphasis upon fundamentals makes the book applicable to specific problems in such rapidly developing fields as missiles and nucleonics, where a "hardware"-oriented approach would be obsolete on publication. The book retains the comprehensive character and broad, authoritative coverage that characterized it when it was devoted to a younger, narrower subject area. The essential concern with costs remains, and the reader will find guidance on selecting economic pipe diameters, financial tables, charts of unit costs for various types of plant facilities, profitability studies, and forms for working out return-on-investment calculations.

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Prepared by a staff of specialists. Editor-in-chief, JOHN H. PERRY. *Series in Chem. Engg.*

1335 *pp.*, 7¼ *x* 9⅞, *illus.* (1954).....$25.00*hb*

A reference book of modern business management prepared especially to meet the needs of the chemical and chemical engineering industries. In 20 sections—each virtually a book in itself—it covers all major phases of business operation, representing the actual practice of leading companies in the chemical and allied industries. The Market Research Data and Sources of Information summarize for the first time the mass of market research data and information sources existing and spread through dozens of government and private sources.

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Introductory and General

ANDERSEN AND WENZEL—Introduction to Chemical Engineering

By L. BRYCE ANDERSEN, University of Nebraska; and LEONARD A. WENZEL, Lehigh University.

378 *pp.*, 6 *x* 9, 112 *illus.* (1961).....$9.95*c*

What are the day-to-day activities of a typical chemical engineer? What tools does he use? What are the ultimate products of his endeavor? The authors provide answers to these questions in giving the beginning chemical engineer an over-all view of his chosen profession while he is also learning some of the rigorous analytical techniques of the field. A number of the important tools of the engineer are considered in detail. Chief among these are mass and energy balances, which are covered thoroughly. Here is an introductory book that achieves both breadth and depth in its survey of the profession of chemical engineering and the processes of the chemical industry.

CONTENTS—THE CHEMICAL PROCESS INDUSTRY. What Is the Chemical Process Industry? Origins and Development of the Chemical Process Industry. The Chemical Industry Today. The Systematic Analysis of Chemical Processes. The Flow Sheet as a Representation of a Chemical Process. THE CHEMICAL ENGINEER IN THE CHEMICAL PROCESS INDUSTRY. Origin of Chemical Engineering. What Is Chemical Engineering? What Does a Chemical Engineer Do? General Aspects of Chemical Engineering. USEFUL MATHEMATICAL METHODS. Presentation and Correlation of Data. Applications of Computers in Chemical Engineering. Dimensions and Units. PHYSICAL AND CHEMICAL PRINCIPLES. Process Variables. Physical States. Phase Equilibria. Reaction Rates. Reaction Equilibria. THE MASS BALANCE. Over-all Balances. Phase Equilibria. Humidity. Chemical Reactions. Bypass. Recycle. Purge. Differential Mass Balances. Reaction Equilibria. THE ENERGY BALANCE. Forms of Energy. Total Energy Balance. Heat Effects. Phase Changes. Enthalpy-composition Diagrams. Chemical Reactions. Industrial Reactions. Differential Energy Balances. Equivalence of Mass and Energy. INORGANIC CHEMICALS. Sulfuric Acid Manufacture. Ammonium Nitrate Manufacture. ORGANIC CHEMICALS. Phenol Manufacture. Ethyl Acetate Manufacture. PETROLEUM AND PETROCHEMICALS. Petroleum Refining. Petrochemicals. Location of Chemical Plants. APPENDIXES. Conversion Factors for Units. Density of Various Substances. Density of Ethyl Alcohol-Water Solutions. Vapor Pressure of Various Liquids and Solids. Melting Points and Normal Boiling Points. Henry's Law Constants for Various Gases in Water. Heat Capacities. Heat Effects of Phase Changes. Heats of Formation, Solution, and Combustion.

BADGER AND BANCHERO—Introduction to Chemical Engineering

By WALTER L. BADGER, Consulting Engineer, and JULIUS T. BANCHERO, University of Notre Dame. *Series in Chem. Engg.*

753 *pp.*, 6 *x* 9, *illus.* (1955).....$11.00*c*

Designed for the student encountering unit operations for the first time, this text maintains a reasonable balance between theory and engineering applications. The book presents the unit operations in logical sequence proceeding from the simpler cases to the more complex, develops the theory thoroughly, and carries it far enough to prepare the reader for advanced treatments. The book includes 418 figures of exceptional quality and interest, many worked examples, and problems for almost every chapter.

CONTENTS—Introduction. Flow of Fluids. Transportation of Fluids. Flow of Heat. Evaporation. Distillation. Extraction. Gas Phase Mass Transfer—Humidity and Air Conditioning. Gas Absorption. Drying. Crystallization. Filtration. Mixing. Size Separation. Crushing and Grinding. Conveying. Appendix. Index.

BADGER AND BANCHERO—Introducción a La Ingeniería Química

In Press

KIRKBRIDE—Chemical Engineering Fundamentals

By CHALMER G. KIRKBRIDE, Sun Oil Company. *Series in Chem. Engg.*

419 *pp.*, 6 *x* 9, 120 *illus.* (1947).....$8.95*c*

Describes the various types of chemical engineering work, principles of human relations important to a practicing engineer, personal qualifications required in the profession, and the important concepts of mathematics, physics, and chemistry essential for later work in this field.

CONTENTS—Human Relations in Chemical Engineering. Useful Mathematical Tools. Important Concepts in Physics and Chemistry. The Material Balance. The Energy Balance. Static Equilibria. Dynamic Equilibria. The Economic Balance. Presentation of Technical Results. Appendix. Index.

McCABE AND SMITH—Unit Operations of Chemical Engineering

By WARREN L. McCABE, Polytechnic Institute of Brooklyn, and JULIAN C. SMITH, Cornell University. *Series in Chem. Engg.*

956 *pp.*, 6 *x* 9, 495 *illus.* (1956)....$12.50*c*

Covers the unit operations of chemical engineering from both a practical and a theoretical standpoint at a uniform level of treatment. Each unit operation is treated separately. General discussions are also included covering fluid mechanics, flow of heat, and mass transfer, each giving scientific and theoretical foundations for several operations. In place of the multiplicity of mass transfer coefficients used in other texts, only one coefficient, the Drew-Colburn Coefficient, is used throughout. The book includes 113 work-out examples, nearly 150 unsolved problems, 500 figures, and 275 references to the chemical engineering literature.

CONTENTS—Introduction. Fluid Mechanics. Transportation of Fluids. Size Reduction. Handling of Solids. Mixing. Mechanical Separations. Flow of Heat. Evaporation. Mass Transfer. Gas Absorption. Distillation. Leaching and Extraction. Crystallization. Air-Water-contact Operations. Drying. Appendixes. Index.

PETERS—Elementary Chemical Engineering

By MAX S. PETERS, University of Illinois. *Series in Chem. Engg.*

322 *pp.*, 6 *x* 9, 72 *illus.* (1954).....$8.50*c*

Designed for readers who have had no previous training in the subject, this volume presents a unified picture of the basic principles of chemical engineering, starting with an appraisal of the profession in general and including a discussion of such topics as stoichiometry, typical equipment, and the unit operations. A separate chapter on equipment facilitates understanding. Will also be valuable as a reference book for the practicing chemical engineer or chemist in industry.

CONTENTS—The Chemical Engineer and His Profession. Technical Introduction. Chemical Engineering Stoichiometry. Industrial Chemical Engineering Equipment. Flow of Fluids. Heat Transfer. Evaporation. Distillation. Absorption and Extraction. Humidification and Dehumidification. Drying. Filtration. Chemical Technology. Chemical Engineering Economics and Plant Design. Appendixes. Answers to Problems.

SMITH—Design of Equilibrium Stage Processes

By BUFORD D. SMITH, Purdue University. *Series in Chem. Engg.*

664 *pp.*, 6 *x* 9, 242 *illus.* (1963).....$17.50*r*

This senior-graduate text and reference book brings together the more important modern correlation and computational methods which are used in applying the equilibrium stage concept to the design of separation processes. It considers at length the sources and derivations of basic relationships and illustrates the applications of the derived equations to practical problems. A common nomenclature is used and the computer approach is emphasized in relation to all of the equilibrium stage separation processes. The three major parts of the over-all design problem are covered thoroughly and rigorous examples for multicomponent extraction and absorption problems are provided.

CONTENTS—Preface. Introduction. Calculation of Distribution Coefficients. Distribution Coefficients in Nonideal Liquid Systems. Design Variables. Equilibrium Flash Separations. Binary Distillation: *x-y* Diagrams. Binary Distillation: Enthalpy-Concentration Diagrams. Ternary Extraction Diagrams. Multicomponent Separations: I. Multicomponent Separations: II. Multicomponent Separations: III. Azeotropic and Extractive Distillation. Multicomponent Separations: IV. Multicomponent Separations: V. Tray Hydraulics: Bubble-cap Trays. Tray Hydraulics: Perforated Trays. Tray Efficiency: Vapor-liquid Systems. Appendix A. Appendix B. Index.

WALKER, LEWIS, McADAMS, AND GILLILAND—Principles of Chemical Engineering

By WILLIAM H. WALKER, Massachusetts Institute of Technology, WARREN K. LEWIS, formerly Massachusetts Institute of Technology, WILLIAM H. McADAMS, and EDWIN R. GILLILAND, Massachusetts Institute of Technology. *Series in Chem. Engg.* Third Edition.

749 *pp.*, 6 *x* 9, *illus.* (1937).....$11.00*c*

Utmost clarity in presenting fundamental concepts is attained in addition to the development of trustworthy and usable correlations and of satisfactory techniques for the solution of practical problems. At the end of each chapter appear references and nomenclature lists, while problems, viscosity tables, conversion tables and other important data are at the back of the book.

CONTENTS—Elements of Industrial Stoichiometry. Fluid Films. Flow of Fluids. Flow of Heat. Fuels and Power. Combustion. Furnaces and Kilns. Gas Producers. Crushing and Grinding. Mechanical Separation. Filtration. Basic Principles of Vaporization Processes. Evaporation. General Principles of Diffusional Processes. Absorption and Extraction. Distillation. Humidity and Wet- and Dry-bulb Thermometry. Air Conditioning. Drying.

Physical Data Estimation

REID AND SHERWOOD—The Properties of Gases and Liquids

Their Estimation and Correlation

By ROBERT C. REID and THOMAS K. SHERWOOD, Massachusetts Institute of Technology. *Series in Chem. Engg.*

377 *pp.*, 6 *x* 9, 58 *illus.* (1958).....$12.75*i*

This is a reference book for students of chemical engineering and chemistry. It presents a critical review of the methods useful in correlating and estimating the more important physical properties of pure materials and simple mixtures. Each property is first discussed from a theoretical standpoint. Following this, both theoretical and empirical methods of estimating the property for new substances are discussed and compared. The methods are applied to the extrapolation of experimental data to unexplored ranges of such variables as temperature and pressure.

CONTENTS—Preface. Introduction. Critical Properties. Pressure-Volume-Temperature Relationships. Vapor Pressure and Latent Heats. Heats, Free Energies of Formation, and Heat Capacities. Viscosity. Thermal Conductivity. Diffusion Coefficients. Vapor-Liquid Equilibria. Bibliography. Index.

Mathematics

LAPIDUS—Digital Computation for Chemical Engineers

By LEON LAPIDUS, Princeton University. *Series in Chem. Engg.*

432 *pp.*, 6 *x* 9, 15 *illus.* (1962)....$11.50*c*

This text is unique in its emphasis on examples, the type and extent of coverage, and its purpose to treat in some detail the various areas of computer mathematics important to the chemical engineer, in a format which he can assimilate. The material covers a logical pattern through polynomial approximation and the subsequent application to various type functional equations. This is followed by a discussion of the shorthand terminology of matric systems and the solution of linear simultaneous algebraic equations and nonlinear equations. Other im-

portant approximation techniques, such as least-square and Chebyshev data fitting, are then outlined. The final area of instruction deals with the extremely important optimization and control of chemical systems.

CONTENTS—Digital-Computer Systems. Polynomial Approximation. Functional Equations 1. *Ordinary Differential Equations.* Functional Equations 2. *Partial Differential Equations.* Systems of Linear Algebraic Equations. Roots of Algebraic and Transcendental Equations. Further Methods of Approximation. Optimization and Control.

MICKLEY, SHERWOOD, AND REED—Applied Mathematics in Chemical Engineering

By HAROLD S. MICKLEY and THOMAS K. SHERWOOD, Massachusetts Institute of Technology, and CHARLES E. REED, General Electric Company. *Series in Chem. Engg.* Second Edition.

413 *pp.*, 6 *x* 9, *illus.* (1957).....$9.95*c*

The purpose of this book is to consolidate the methods of applied mathematics that appear most helpful to the chemical engineer into a form that can be readily used by both student and engineer. The engineering applications of mathematics are emphasized. Considerable attention is given to the problem of expressing a physical situation in mathematical language. Problems drawn from engineering literature and practice are used to illustrate the mathematical procedures.

CONTENTS—Treatment of Engineering Data. Interpretation of Engineering Data. Mathematical Formulation of the Physical Problem. Solution of Ordinary Differential Equations. Series and Numerical Solutions of Ordinary Differential Equations. Formulation of Partial Differential Equations. Solution of Partial Differential Equations. The Laplace Transform. Analysis of Stagewise Processes—The Calculus of Finite Differences. The Numerical Solution of Partial Differential Equations.

Stoichiometry

CORCORAN AND LACEY—Introduction to Chemical Engineering Problems

By WILLIAM H. CORCORAN and WILLIAM N. LACEY, both California Institute of Technology. *Series in Chem. Engg.*

185 *pp.*, 6 *x* 9 (1960).....$6.90*i*

This brief introductory text for the first course in chemical engineering provides an introduction to chemical engineering calculations by way of elementary physical chemistry. Internal energy is discussed first and leads the way to presentations on chemical equilibria and chemical kinetics. Material and energy balances are considered next, and finally, short presentations on some basic inorganic processes are given to show how their development is based on physico-chemical principles. There are many worked-out examples and problems.

CONTENTS—Preface. List of Symbols. Units. Engineering Calculations. Engineering Measurements. Behavior of Gases. Material Balances. Energy. Energy Balances. Introduction to Chemical Equilibria. Introduction to Chemical Kinetics. Fixation of Nitrogen. Nitric Acid. Sulfuric Acid. Sodium Hydroxide. Appendix Problems.

HENLEY AND BIEBER—Chemical Engineering Calculations

Mass and Energy Balances

By ERNEST J. HENLEY, Stevens Institute of Technology, and HERMAN BIEBER, Esso Research and Engineering Co. *Series in Chem. Engg.*

441 *pp.*, 6 *x* 9, 149 *illus.* (1959).....$9.95*c*

Fundamental concepts, rather than technology and empiricism, are stressed throughout. Engineering techniques such as graphical methods, approximations, trial and error of the calculus is made throughout. A unique feature of this book is its inclusive coverage of thermodynamics, material balances, phase equilibrium, and chemical reaction equilibrium. The first nine chapters provide a rudimentary treatise in problem solving techniques, as illustrated by material balance calculations. Next a detailed exposition of the First Law is offered, and finally illustrations involving all previously discussed disciplines are given. The Second Law is used, and derived in the Appendix, but is not discussed in detail.

CONTENTS—History of Chemical Engineering. Review of Elementary Stoichiometric Calculations. Problem Solving Techniques. Units. The Gaseous, Liquid, and Solid States. Vaporization. Material Balances Involving No Chemical Reactions. Stoichiometric Calculations Using Diagrams. Material Balances Involving Chemical Reactions. Thermodynamic Definitions. Energy Balances in Chemical Reactions. Heat of Reaction. Use of Thermodynamic Diagrams. Applications of the First Law. Combined Material and Energy Balances. Appendix I—Mathematical Techniques.

LEWIS, RADASCH, AND LEWIS—Industrial Stoichiometry

Chemical Calculations of Manufacturing Processes

By WARREN K. LEWIS, formerly Massachusetts Institute of Technology, ARTHUR H. RADASCH, The Cooper Union for the Advancement of Science and Art, and H. CLAY LEWIS, Georgia Institute of Technology. *Series in Chem. Engg.* Second Edition.

419 *pp.*, 6 *x* 9, 87 *illus.* (1954).....$9.95*c*

Designed to develop skill in the art of applying computation methods in the analysis of processing operations and in the analysis and solution of processing difficulties. The case method of illustrating techniques of computation is retained in this edition. Only a prior knowledge of general chemistry is necessary. Valuable to ceramic and metallurgical engineers as well as to chemical engineers, for a thorough knowledge of industrial stoichiometry is essential for a full understanding of industrial chemical processes.

CONTENTS—Introduction. Gaseous and Liquid Fuels. Energy Balances and Equilibrium. Solid Fuels. Secondary Fuels. Sulfur Compounds. Nitrogen Compounds. Lime and Cement. Fixed Alkalies. Metallurgy. Ceramics. Design Problems. Appendix. Index.

WILLIAMS AND JOHNSON—Stoichiometry for Chemical Engineers

By EDWIN T. WILLIAMS, The Pennsylvania State University, and R. CURTIS JOHNSON, Thompson-Ramo-Wooldridge Products Co., Beverly Hills, California. *Series in Chem. Engg.*

345 *pp.*, 6 *x* 9, 40 *illus.* (1958).....$8.95*c*

Presents the fundamentals of material and energy balances, together with other principles generally classified as "stoichiometry," in such a way that their applications to chemical engineering are evident. Classic material and energy balance concepts of stoichiometry are shown in their complementary function by means of representative calculations dealing with chemical engineering equipment. The use of units in calculations is emphasized. Numerous practice problems are provided at the end of each section, some of which have detailed solutions indicated in an Appendix.

CONTENTS—Preface. Mathematical Principles. Chemical and Physical Principles. Material Balances. Energy Balances. Physical Operations. Chemical Processes. Postscript. Appendixes. Index.

CLARKE AND DAVIDSON—Manual for Process Engineering Calculations

By LOYAL CLARKE, Olin Mathieson Chemical Corp., and ROBERT L. DAVIDSON, Corporate Publications, Inc. *Series in Chem. Engg.* Second Edition.

492 *pp.*, 6 *x* 9, 193 *illus.* (1962)....$13.00*r*

Provides sound guidance in a single, convenient reference on handling important chemical engineering calculations for process engineering and process design of chemical plants. The emphasis in the book is on practical application . . . theory is discussed mainly when necessary to aid in understanding usage, range, scope, and accuracy of data and calculation methods. Included are useful summaries of data such as tables, figures, and equations plus helpful discussions which supply guidance for application to rapid process design calculations.

Thermodynamics

DODGE—Chemical Engineering Thermodynamics

By BARNETT F. DODGE, Yale University. *Series in Chem. Engg.*

680 *pp.*, 5¾ *x* 8¾, 182 *illus.* (1944) $11.00*c*

After a thorough treatment of the fundamental laws, the book develops various applications of especial interest to chemical engineers. No attempt has been made to cover all applications; instead a few have been selected for more detailed treatment. These are thermodynamic properties of fluids, expansion and compression of gases, fluid flow, heat transfer, refrigeration, chemical reaction equilibria, distillation equilibria, and distillation processes.

CONTENTS—Definitions and Fundamental Concepts. The First Two Fundamental Laws. Quantitative Development of the Two Fundamental Laws. The Thermodynamic Functions. General Equations of Equilibrium. Pressure-Volume-Temperature Relations of Fluids. Thermodynamic Properties of Fluids. Compression and Expansion of Fluids. Thermodynamics of Fluid Flow. Heat Transfer. Refrigeration.

SMITH AND VAN NESS—Introduction to Chemical Engineering Thermodynamics

By J. M. SMITH, Northwestern University, and H. C. VAN NESS, Rensselaer Polytechnic Institute. *Series in Chem. Engg.* Second Edition.

490 *pp.*, 6 *x* 9, 124 *illus.* (1959).....$9.75*c*

Provides a sound, introductory treatment of the first and second laws of thermodynamics from a chemical engineering viewpoint. Includes a study of the thermodynamic properties of fluids, applications of thermodynamics to the flow of fluids, compression and expansion processes, refrigeration and chemical reaction equilibria. Important concepts and new principles or ideas are illustrated by unsolved chapter problems as well as solved numerical examples.

CONTENTS—Preface. List of Symbols. Introduction. The First Law and Other Basic Concepts. The Ideal Gas. Pressure-Volume-Temperature Relations of Fluids. Heat Effects. The Second Law of Thermodynamics. Thermodynamic Properties of Fluids. Thermodynamics of Flow Processes. Production of Work from Heat. Refrigeration. Thermodynamic Analysis of Processes. Phase Equilibria. Chemical-reaction Equilibria. Appendix. Index.

WILSON AND RIES—Principles of Chemical Engineering Thermodynamics

By ERNEST D. WILSON, Worcester Polytechnic Institute, and HAROLD C. RIES, Shell Development Corporation. *Series in Chem. Engg.*

376 *pp.*, 6 *x* 9, *illus.* (1956).....$8.95*c*

This text attempts to make available to a wider audience those methods of presentation of the subject which have been found to be most effective by the authors in some 18 years of combined teaching of such a course. Here, thermodynamics is presented as a tool and a method of approach to the solution of industrial problems. Thus, fundamental principles are presented first and then these principles are used in the solution of problems one might actually encounter in industry.

CONTENTS—States and Properties of Matter. The First Law of Thermodynamics. Applications of the First Law of Thermodynamics. Handling and Compression of Fluids. Thermochemical Effects. The Second Law of Thermodynamics. Graphical Presentation and Interpretation. Steam Power Plants. Refrigeration. Thermodynamic Potential Functions. Real Gases versus Ideal Gases. Phase Equilibria. Chemical Equilibrium. Appendix A: Thermodynamic Data. Appendix B: Estimation of $\Delta F f°$ from Solubility Data. Appendix C: Calculation of Frictional Losses. Appendix D: Problems. Index.

Heat Transfer

KERN—Process Heat Transfer

By DONALD Q. KERN, D. Q. Kern Associates and Case Institute of Technology.

871 *pp.*, 6 *x* 9, 363 *illus.* (1950).....$16.50*c*

A systematic instruction in the calculations, derivations, and empirics of heat transfer using the language and methods of industry. Combines both a thorough theoretical background and modern "know-how." A complete manual for solving the problems of thermal design arising in the process industries.

CONTENTS—Process Heat Transfer. Conduction. Convection. Radiation. Temperature. Counterflow: Double Pipe Exchangers. 1-2 Parallel-Counterflow: Shell and Tube Exchangers. Flow Arrangements of Increased Heat Recovery. Gases. Streamline Flow and Free Convection. Calculations for Process Conditions. Condensation of Single Vapors. Condensation of Mixed Vapors. Evaporation. Vaporizers. Evaporators and Reboilers. Extended Surfaces. Direct Current Transfer-Cooling Towers. Batch and Insteady State Processes. Furnace Calculations. Additional Applications. The Control of Temperature and Related Process Variables. Appendix of Calculation Data.

McADAMS—Heat Transmission

By WILLIAM H. MCADAMS, Massachusetts Institute of Technology. *Series in Chem. Engg.* Third Edition.

490 *pp.*, 6 *x* 9, 235 *illus.* (1954)....$12.00*c*

Designed for students of all phases of engineering and as a reference book for the practicing engineer. It provides an authoritative, up-to-date treatment of all phases of heat transfer with a critical evaluation of the data. The chapter on Radiant-heat Transmission includes important charts for evaluating emissivity as well as a thorough discussion of radiation exchange in enclosures. Other chapters cover material heretofore available only in widely scattered sources.

CONTENTS—Index to Principal Relations for Convection. Introduction to Heat Transmission. Steady Conduction. Introduction to Heat Transmission. Transient Conduction. Radiant Heat Transmission. Dimensional Analysis. Flow of Fluids. Natural Convection. Introduction to Forced Convection. Heating and Cooling Inside Tubes. Heating and Cooling Outside Tubes. Compact Exchangers; Packed and Fluidized Systems. High-velocity Flow; Rarefied Gases. Condensing Vapors. Boiling Liquids. Applications to Design. Appendix (Tables and Charts of Data). Bibliography and Author Index. Subject Index.

Kinetics

SMITH—Chemical Engineering Kinetics

By J. M. SMITH, Northwestern University. *Series in Chem. Engg.*

402 *pp.*, 6 *x* 9, 59 *illus.* (1956).....$9.75*c*

Brings to engineering students and practicing engineers the combination of kinetics and reactor design necessary to design, construct, and operate reaction equipment. The *engineering approach* is entirely different from that of the usual chemical kinetics text, in that emphasis is on the engineering problems encountered in designing and operating reaction equipment. Numerical examples illustrate all important principles.

CONTENTS—Introduction. Thermodynamics Review. Kinetics. Introduction to Reactor Design. Homogeneous Batch Reactors. Homogeneous Flow Reactors. Semibatch Reactors. Catalysis. Kinetics of Solid Catalytic Reactions. Heat and Mass Transfer in Reactors. Design of Gas-solid Catalytic Reactors. Appendix A: Sections 3-9 to 3-12. B: A Continuation of Section 10-4. Index.

WALAS—Reaction Kinetics for Chemical Engineers

By STANLEY M. WALAS, University of Kansas, and The C. W. Nofsinger Company. *Series in Chem. Engg.*

326 *pp.*, 6 *x* 9 (1959).....$9.95*c*

Written for use at the senior-undergraduate or first-year graduate level, this text covers the subject from the standpoint of the process designer, rather than that of the physical chemist. The elements of the subject have been developed in detail; and the material will enable the reader to analyze kinetic data, interpret recent literature, and accomplish the process design of chemical reactors with some facility. A mathematical review is given for students who have not studied differential equations and numerical methods. Descriptive chapters on catalytic processes and types of industrial reactors are included.

CONTENTS—Preface. Notation. Fundamentals. Homogeneous Isothermal Reactions. Adiabatic and Programmed Reactions. Continuous Stirred Reactors. Homogeneous Flow Reactions. Uncatalyzed Heterogeneous Reactions. Fluid-Phase Reactions Catalyzed by Solids. Fixed and Fluidized Beds of Particles. Heterogeneous Catalysis. Scaling-up Test Data. Industrial Reactors. Mathematics for Review. Appendix 1. The Literature of Reaction Kinetics. Appendix 2. Constants and Conversion Factors. Index.

Unit Operations

MANTELL—Adsorption

By C. L. MANTELL, Newark College of Engineering. *Series in Chem. Engg.* Second Edition.

634 *pp.*, 6 *x* 9, *illus.* (1951).....$14.00*c*

Explains the fundamentals of adsorption as a unit operation, the manufacture, properties, and uses of the various classes of adsorbents, and the methods and special factors of using adsorption in such applications as the refining processes, solvent recovery, odor removal, and air conditioning.

CONTENTS—The Unit Operation of Adsorption. Theories of Adsorption Fuller's Earth and Activated Clays. Aluminum Oxide Base Materials. Bone Char and Related Materials. Decolorizing Carbon. Water-treatment Carbon. Metal-adsorbent Chars. Gas-absorbent Carbons. Silica Gel. Ion Exchangers. Magnesia Base Materials. Solvent Recovery and Concentration. Odor Removal. Air Purification and Recovery. Gas Masks. Fractionation of Liquid Hydrocarbons. Fractionation of Gases—Hypersorption. Gas Hydrates. Dehydration of Air and Gases. Dehydration of Liquids and Refining of Waxes. Fractionation of Ions. Adsorbents in Refining of Sugar and Related Substances. Water Treatment. Ion Exchanger Applications. Adsorbents in Medicine and Pharmacy. Chromatographic Adsorption. Inspection, Specifications, and Testing of Adsorbents. Appendix: Fundamental Laws, Energy Relations, Conversion Factors, Notations. Index.

ROBINSON AND GILLILAND—Elements of Fractional Distillation

By CLARK SHOVE ROBINSON and EDWIN RICHARD GILLILAND, Massachusetts Institute of Technology. *Series in Chem. Engg.* Fourth Edition.

492 *pp.*, 6 *x* 9, *illus.* (1950).....$12.00*c*

Presents the principles of fractional distillation, illustrating them with carefully selected applications. Emphasizing design methods, it takes up in detail the measurement, prediction, and use of vapor-liquid equilibria, considering this to be one of the most serious limitations of design calculations.

CONTENTS—Distillation of Vapor-liquid Equilibria. Presentation of Vapor-liquid Equilibrium Data. Calculation of Vapor-liquid Equilibria. General Methods of Fractionation. Simple Distillation and Condensation. Rectification of Multicomponent Mixtures. Extractive and Azeotropic Distillation. Rectification of Complex Mixtures. Alternate Design Methods for Multicomponent Mixtures. Simultaneous Rectification and Chemical Reaction. Batch Distillation. Vacuum Distillation. Fractionating Column Design. Fractionating Column Performance. Fractionating Column Auxiliaries.

SHERWOOD AND PIGFORD—Absorption and Extraction

By T. K. SHERWOOD, Massachusetts Institute of Technology, and R. L. PIGFORD, University of Delaware. *Series in Chem. Engg.* Second Edition.

469 *pp.*, 6 *x* 9, 214 *illus.* (1952)....$11.50*c*

Covers the theory, design procedures, and performance data relating to mass transfer between phases, especially the industrial countercurrent operations of gas absorption and liquid-liquid extraction.

CONTENTS—Diffusion. Eddy Diffusion. Transfer of Material between Phases. Simultaneous Heat and Mass Transfer. Principles of the Design of Absorption Equipment. Design Principles of Multicomponent Systems. Gas Absorption Equipment. Performance of Absorption Equipment. Simultaneous Absorption and Chemical Reaction. Solvent Extraction. Index.

TREYBAL—Liquid Extraction

By ROBERT E. TREYBAL, New York University. *Series in Chem. Engg.* Second Edition.

640 *pp.*, 6 *x* 9, 315 *illus.* (1963)....$16.50*r*

Treating the subject from an engineering point of view, the book describes the principles and fundamental science underlying liquid extractions and most engineering applications: methods of processes and equipment for completing liquid extraction operations on an industrial scale. Emphasized are all possible applications of principles to problem solutions encountered by practicing scientists and chemical engineering students. Theoretical principles and their limitations are discussed and examined. Covered fully are methods and principles of design; all but one chapter is devoted to explaining and applying principles to engineering design of any kind of process for which liquid extraction can be used and the equipment needed. New chapters include "Laboratory and Small Scale Extraction" and "Some Extractor Economics."

CONTENTS—Preface. Liquid Extraction in the Chemical Process Industries. Liquid Equilibria. Prediction of Distribution. Choice of Solvent and Solvent Recovery. Diffusion and Mass Transfer. Methods of Calculation I. Stagewise Contact with a Single Solvent, Ternary Systems. Methods of Calculation II. Stagewise Contact, Multicomponent Systems. Methods of Calculation III. Continuous Countercurrent Contact. Laboratory and Small Scale Extraction. Introduction to Chapters 10, 11, and 12. Equipment for Stagewise Contact (Mixer-Settlers). Equipment for Continuous (Differential) Contact. Some Extractor Economics. Liquid-Extraction Processes. Problems. Index.

Unit Processes

GROGGINS—Unit Processes in Organic Synthesis

Editor-in-Chief, P. H. GROGGINS, Chemical Engineer. *Series in Chem. Engg.* Fifth Edition.

1070 *pp.*, 6 *x* 9, 238 *illus.* (1958)....$18.50*c*

The prime objective of this book is the presentation of the industrial technic used in converting organic raw materials into usable products by various processes. The underlying principles and factors for each unit process are organized in a systematic manner with most emphasis on fundamental scientific and technological principles. Detailed discussion of manufacturing processes is included only to the extent required for the elucidation of these basic principles. In keeping with the modern trend toward the so-called chemical engineering sciences, the authors have stressed fundamental advances in theory as well as in industrial practice.

CONTENTS—Preface. Applications of Thermodynamics in Unit Processes. Chemical Kinetics. Chemical-process Kinetics. Nitration. Amination by Reduction. Halogenation. Sulfonation and Sulfation. Amination by Ammonolysis. Oxidation. Hydrogenation. Hydrocarbon Synthesis and Hydroformylation. Esterification. Hydrolysis. Alkylation. PART I. PRINCIPLES OF POLYMER CHEMISTRY. PART II. POLYMERIZATION PRACTICE. INDEX.

KOHL AND RIESENFELD—Gas Purification

By ARTHUR L. KOHL, Atomics International, FRED C. RIESENFELD, The Ralph M. Parsons Company. *Series in Chem. Engg.*

556 *pp.*, 6 *x* 9, 277 *illus.* (1960).....$16.75*i*

Gives you a sound working knowledge of the most efficient and economical gas purification processes commonly used in modern industry. Provides process descriptions, explaining the characteristics, uses, and advantages of each process; operating data, to help solve problems likely to arise in the operation of commercial units; and design methods, to be used as guides in the design of entire gas purification plants.

CONTENTS—Introduction. Design of Ethanolamine Plants for H_2S and CO_2 Absorption. Operation of Ethanolamine Units. H_2S and CO_2 Removal with Ammonia Solutions. Alkaline Salt Solutions for H_2S and CO_2 Absorption. Water as an Absorbent for Gas Impurities. Removal of SO_2 by Absorption in Liquids. Oxidation Processes for Removal of H_2S and Other Sulfur Compounds—Dry Processes. Liquid Processes for Removal of H_2S by Oxidation. Removal of Nitrogen Compounds from Gas Streams by Absorption in Acids. Absorption of Water Vapor by Dehydrating Solutions. Gas Dehydration and Purification by Adsorption. Catalytic Conversion of Gas Impurities. Miscellaneous Techniques.

LEVA—Fluidization

By MAX LEVA, Consulting Chemical Engineer. *Series in Chem. Engg.*

327 *pp.*, 6 *x* 9, 184 *illus.* (1959).....$12.75*i*

This authoritative book presents all major developments of a fundamental nature pertaining to fluidization. Discusses the fluidized state, fixed bed and onset of fluidization, dilute phase and moving solids, heat transfer, mass transfer, solids and fluid mixing, and other topics. Included are such features as critical presentation of many working correlations; explanation of fluidization phenomena as related to flow of fluids through fixed beds; discussion of spouting; and foreign developments in this field.

SHREVE—The Chemical Process Industries

By R. NORRIS SHREVE, Purdue University. *Series in Chem. Engg.* Second Edition.

973 *pp.*, 6 *x* 9 (1956).....$14.75*t*†

Here, presented in one volume are the processes used in the various chemical and allied industries. Chapters are arranged according to the various industries, and the flow sheets important to these industries are included together with the quantities of materials required to produce the finished product, whenever such figures are available. One of the outstanding features of the book is the emphasis on the flow sheets.

CONTENTS—Objectives. Unit Processes and Unit Operations. General Fundamentals. Water Conditioning and Waste-water Treatment. Fuels, Power, and Air Conditioning. Coal Chemicals. Fuel Gases. Industrial Gases. Industrial Carbon. The Ceramic Industries. Cements, Calcium and Magnesium Compounds. Glass Industries. Potassium Salts and Mixed Fertilizers. Salt and Miscellaneous Sodium Compounds. Soda Ash, Caustic Soda, and Chlorine. Electrolytic Industries. Electrothermal Industries. Phosphorous Industries: Sulfur and Sulfuric Acid. Nitrogen Industries. Hydrochloric Acid and Miscellaneous Inorganic Chemicals. Explosives, Pyrotechnics, and Chemical Warfare. The Photographic Industry. Paint, Varnish, Lacquer, and Allied Industries. Leather, Gelatine, and Glue. Pesticides. Perfume and Flavoring Industries. Oils, Fats, Waxes. Soap, Detergents, and Related Compounds. Sugar and Starch Industries. Fermentation Industries. Wood Chemicals. Pulp and Paper Industries. Synthetic Fibers. Plastics. Natural and Synthetic Rubber. The Petroleum Industry. Intermediate, Dyes, and Their Application. Organic Chemicals, Not Otherwise Classified. Appendix: Problems. Name Index. Subject Index.

Process Control

HARRIOTT—Process Control

By PETER HARRIOTT, Cornell Univ. *Series in Chem. Engg.*

In Press

Senior or introductory graduate text for chemical engineers describing automatic control theory and its applications in the process control industries. The dynamic behavior of processes and equipment are emphasized rather than mechanical features of instruments and controllers. Shows how control theory can be applied quantitatively to typical process control problems. Techniques of analysis, response of individual components and simple systems and general rules for control systems design are covered in the first half of the text. The second half discusses specific applications. The frequency response method is emphasized. Also suitable for self-study.

CONTENTS—General Background. The LaPlace Transform Open-loop Response of Simple Systems. Transient Response of Control Systems. Frequency-response Analysis. Frequency Response of Controllers. Frequency Response of Closed-loop Systems. Complex Control Systems. Optimum Controller Settings. Control Valves and Transmission Lines. The Dynamics and Control of Heat Exchangers. Level Control. Flow Control. The Dynamics and Control of Distillation Columns. The Stability and Control of Chemical Reactors. Control of pH and Control of Blending Processes. Appendix.

Transport Phenomena

BENNETT AND MYERS—Momentum, Heat, and Mass Transfer

By C. O. BENNETT, The Lummus Company; and J. E. MYERS, Purdue University. *Series in Chem. Engg.*

709 *pp.*, 6 *x* 9, 268 *illus.* (1962)....$13.50*c*

The authors set forth the fundamentals of momentum, heat, and mass transfer and apply them to engineering problems, particularly those in the process industry. Approach, coverage, and organization set this book apart. The most important difference lies in the fundamentals rather than the operations approach, with emphasis on principles, reinforced by numerous examples, applications to vital situations, and excellent problems. Unit operations are intro-

† *Textbook edition available at educational list price.*

duced as applications of the theory of the transport processes.

CONTENTS—PART I. FLUID DYNAMICS. Introduction. The Over-all Balances; Introduction to Fluid Behavior. The Over-all Mass Balance. The Over-all Energy Balance. The Over-all Momentum Balance. Flow Measurement. Concepts of Fluid Behavior—I. Concepts of Fluid Behavior—II. The Differential Mass Balance. The Differential Energy Balance. The Differential Momentum Balance. Some Solutions of the Equations of Motion. Velocity Distribution and Drag with Turbulent Flow. Dimensional Analysis with Applications in Fluid Dynamics. Some Design Equations for the Flow of Incompressible Fluids. Filtration and Fluidization. High-speed Flow. PART 2. HEAT TRANSFER. Introduction to Heat Transfer. Conduction and Thermal Conductivity. Steady-state Heat Conduction. Numerical, Graphical, and Analog Methods in the Analysis of Heat Conduction. Convective Heat-transfer Coefficients. Heat Transfer with Laminar Flow. Heat Transfer with Turbulent Flow. Some Design Equations for Convective Heat Transfer. Boiling and Condensation. Radiant Heat Transfer. Heat-exchange Equipment. PART 3. MASS TRANSFER. Introduction to Mass Transfer. Molecular Diffusion and Diffusivity. Diffusion in Binary Mixtures. Convective Mass-transfer Coefficients. Mass Transfer with Laminar Flow. Mass Transfer with Turbulent Flow. Some Design Equations for Mass Transfer. Continuous Contacting of Immiscible Phases. Simultaneous Momentum, Heat, and Mass Transfer. Separation by Equilibrium Stages; Immiscible Phases. Contacting of Partially Miscible Phases. Distillation of Binary Mixtures. Multicomponent Separations. Mass Transfer with Chemical Reaction. INDEX.

KNUDSEN AND KATZ—Fluid Dynamics and Heat Transfer

By JAMES G. KNUDSEN, Oregon State College, and DONALD L. KATZ, University of Michigan. *Series in Chem. Engg.*

576 *pp.*, 6 *x* 9, 301 *illus.* (1958) $14.00*c*

This book, which is designed for a one-semester graduate course in fluid flow and heat transfer, aims to present the fundamentals of fluid dynamics which are basic to an understanding of convection heat transfer. Wherever possible, the differential equations describing the particular fluid flow or heat transfer problem being discussed are presented, together with the boundary conditions applicable to the problem. A number of illustrative problems have been included to demonstrate the application of relationships presented.

CONTENTS—Preface. PART I. BASIC EQUATIONS AND FLOW OF NONVISCOUS FLUIDS. Fluids and Fluid Properties. The Differential Equations of Fluid Flow. Flow of Nonviscous Fluids. PART II. THE FLOW OF VISCOUS FLUIDS. Laminar Flow in Closed Conduits. Turbulence. Dimensional Analysis and Application to Fluid Dynamics. Turbulent Flow in Closed Circuits. The Laminar Sublayer. Flow in the Entrance Section of Closed Conduits. Flow of Incompressible Fluids Past Immersed Bodies. Flow on the Shell Side of Multitube Heat Exchangers. PART III. CONVECTION HEAT TRANSFER. The Convection Heat Transfer Coefficient. Dimensional Analysis in Convection Heat Transfer. Heat Transfer During Laminar Flow in Closed Circuits. Turbulent Flow Heat Transfer in Closed Circuits. Empirical Correlations for High Prandtl Number Fluids. The Analogy Between Momentum and Heat Transfer. Heat Transfer with Liquid Metals. Heat Transfer During Incompressible Flow Past Immersed Bodies. APPENDIXES. I. Mathematical Terms and Vector Notation. II. Complex Numbers and Conformal Mapping. III. Table of Nomenclature. Problems.

SPALDING—Convective Mass Transfer

An Introduction

By D. BRIAN SPALDING, Univ. of London, England.

448 *pp.*, 6 *x* 9, *illus.* (1963) $12.50*c*

This book provides an integrated account of convective mass transfer theory and presents a simple and general method for calculating the rates of mass transfer in many different areas of engineering. Unlike books restricting their treatments primarily to chemical engineering applications, this study considers applications to problems arising in aeronautical, chemical, mechanical, metallurgical, and combustion engineering.

CONTENTS—WHAT MASS TRANSFER IS ABOUT. Description of Some Mass Transfer Processes. An Outline of Mass Transfer Science. A PROVISIONAL THEORY OF MASS TRANSFER. The Reynolds Flow. The Driving Force for Mass Transfer. Procedures for Calculating Mass and Heat Transfer Rates. Some Simple Applications of the Calculation Procedures. Simultaneous Heat and Mass Transfer. Mass Transfer between Confined Streams.

TREYBAL—Mass-transfer Operations

By ROBERT E. TREYBAL, New York University. *Series in Chem. Engg.*

666 *pp.*, 6 *x* 9, *illus.* (1955) $12.00*c*

This book provides an initiation into the general features of diffusion and the techniques used in the industrial applications of the mass transfer operations. It not only presents a sound background in the theoretical material, but also covers the principles of equipment design, equipment operation, and the fields of application for the unit operations.

CONTENTS—Diffusion and Mass Transfer. Molecular Diffusion in Fluids. Diffusion in Turbulent Flow. Diffusion in Solids. Interphase Mass Transfer. Gas-liquid Operations. Equipment for Gas-liquid Operations. Humidification Operations. Gas Absorption. Distillation. Liquid-liquid Operations. Liquid Extraction. Solid-fluid Operations. Adsorption and Ion Exchange. Drying. Leaching. Contact of Miscible Phases. The Less Conventional Operations. Index.

Economics

ARIES AND NEWTON—Chemical Engineering Cost Estimation

By ROBERT S. ARIES, Polytechnic Institute of Brooklyn, and ROBERT D. NEWTON, Charles Pfizer & Co., Inc. *Series in Chem Engg.*

263 *pp.*, 6 *x* 9, 88 *illus.* (1955) $7.50*c*

Covers the entire scope of cost estimating, demonstrates the relationships and applications, and provides useful cost estimating data. Previously this type of information could only be found scattered in various journals. The aim of the book is twofold: first, to outline the principles of cost estimation and evaluation, and second, to provide quantitative data for the application of the techniques discussed for the resolution of problems encountered in modern industrial practice.

CONTENTS—Foreword. Capital Investment. Physical-plant Cost: Equipment. Physical-plant Cost: Components Other than Equipment. Manufacturing Cost. General Expense. Sales and Profits. The Effect of Variable Conditions upon Costs and Profits. Cost Factors in Plant Location. The Relative Importance of the Components of Cost. Economic Evaluation. Nomenclature. Sample Problems. Index.

CHILTON—Cost Engineering in the Process Industries

Edited by CECIL H. CHILTON, Editor, *Chemical Engineering.*

475 *pp.*, 8½ *x* 11, 535 *illus.* (1960) . . $13.50*i*

Helps engineers save time and protect profits in estimating plant, manufacturing, and equipment costs in the process industries. Over 140 articles on cost estimation, cost control, and profitability analysis are included, ranging from cost estimates for a complete process plant to estimates for the smallest piece of equipment needed in the plant. The material is organized and indexed for immediate reference or use, and includes a wealth of illustrations, graphs, appropriate cost indexes to keep the data continually up to date, and other helpful working aids. Drawn from the pages of *Chemical Engineering*, this practical cost manual represents the know-how of over 125 leading authorities in the field.

CONTENTS—Principles of Cost Estimation. Process Equipment Costs. Non-equipment Capital Costs. Plant Costs. Manufacturing Costs. Profitability and Economic Analysis. Other Areas of Cost Engineering.

SCHWEYER—Process Engineering Economics
By H. E. SCHWEYER, University of Florida. *Series in Chem. Engg.*
409 *pp.*, 6 *x* 9, *illus.* (1955).....$8.95*c*
A source book of ideas for effecting savings in design and operation, presented in the terminology and form with which management is familiar. The subject matter covered comprises three major groups of related items: a brief, but rigorous, treatment of theoretical engineering economy equations; a concise coverage of the uses of accounting data including cost estimation and evaluations of the economic feasibility of operations; and a comprehensive study of economic balance in order to determine the optimum range for operations at lowest cost.
CONTENTS—Preface. Introduction. Value of Money—Equivalence. Amortization. Capital Requirements for Process Plants. Costs, Earnings, Profits, and Returns. Economics of Selecting Alternates. Rate of Return and Payout Time—Replacements. Economic Balance. Economic Balance in Cyclic Operations. Economic Balance in Yield and Recovery. Economic Balance and Inventory in Process Operations. Economic Analysis of a Complete Process. Appendixes. Index.

TYLER AND WINTER—Chemical Engineering Economics
By CHAPLIN TYLER and C. H. WINTER, JR., E. I. du Pont de Nemours & Company, Inc. *Series in Chem. Engg.* Fourth Edition.
187 *pp.*, 6 *x* 9, 40 *illus.* (1959).....$7.00*c*
A practical "how" and "why" book that shows the chemical engineer the role economics plays in the industrial enterprise, and the relation of engineering practice to that role. The book appraises critically the vital problems of investment, cost, price, and profit, and how each can be resolved. It gives the engineer the background information needed to answer the question "will it pay" after answering the question of "will it work." From the characteristics of the chemical industry through cost accounting, research, process development, manufacturing, and selling, the book gives the economic pointers that must be observed if a project is ultimately to produce a profit.
CONTENTS—Characteristics of the Chemical Industry. Organization. Cost Accounting. Financial Analysis. Research. Marketing Research. Process Development. Project Engineering. Manufacture. Marketing. Management Problems.

Plant Design

COMINGS—High Pressure Technology
By EDWARD W. COMINGS, Purdue University. *Series in Chem. Engg.*
297 *pp.*, 6 *x* 9, 178 *illus.* (1956).....$16.00*i*
Covers the whole field of high pressure technology. The central theme is the influence of elevated pressure on chemical and physical systems, and on the design of equipment for handling these systems experimentally or on a commercial scale. Extensive appendixes supply data for problems, calculations, and design.
CONTENTS—Introduction. Chemical Processes by R. N. Shreve. Metals by H. C. Van Ness. Safety. Equipment. Thick-walled Cylinders. Experimental Techniques. Gases and Liquids. Chemical-engineering Unit Operations. Chemical Equilibrium. Chemical Reactors. Synthesis of Ammonia. Appendices: A: Units and Dimensions. B: Values for the Redlick and Kwong Equation. C: Constants for Equations of State. D: Properties of Gases, Liquids, and Solids. E: Equipment Sizes. F: Lists of Flammability of Gases and Vapors. G: Mercury-cleaning Techniques. H: Steels and Alloys for High Pressures. Problems and Questions. Glossary. Author Index. Subject Index.

JOHNSTONE AND THRING—Pilot Plants, Models and Scale-up Methods in Chemical Engineering
By ROBERT E. JOHNSTONE, University of Nottingham, England, and MEREDITH W. THRING, University of Sheffield, England. *Series in Chem. Engg.*
307 *pp.*, 6 *x* 9, 16 *illus.* (1957).....$12.75*i*
Deals with the many ways in which model theory and empirical extensions of it can be used in the design of pilot plants and models, and in the interpretation and scaling up of experimental results. The approach is analytical and quantitative, but worked examples show how the principles are applied.
CONTENTS—Introduction. Pilot Plants and Models. The Principle of Similarity. Dimensional Analysis. Differential Equations. The Regime Concept. Similarity Criteria and Scale Equations. Extrapolation. Boundary Effects. Ducts and Flow Passages. Filters. Heat Transfer Equipment. Packed Towers. Mixing Equipment. Chemical Reactors. Furnaces and Kilns. Miscellaneous Equipment. Corrosion. Analogue Models. APPENDIX. Terminology. Dimensions of Physical and Chemical Quantities. Dimensionless Groups. Note on Automatic Control. Index.

PETERS—Plant Design and Economics for Chemical Engineers
By MAX S. PETERS, University of Illinois. *Series in Chem. Engg.*
511 *pp.*, 6 *x* 9, 107 *illus.* (1958)....$12.50*c*
The purpose of this book is to present economic and design principles as applied in chemical engineering processes and operations. The first part of the book deals with applied economics with particular emphasis on economics in the process industries and in design work. The remainder of the book deals with methods and important factors in the design of plants and equipment. Illustrative examples and sample problems are used extensively in the text to illustrate the applications of the principles to practical situations. The material presented should be of interest to administrators, operation supervisors, and research or development workers in the process industries.
CONTENTS—Preface. Introduction. Costs in Chemical Processes. Interest and Investment Costs. Taxes and Insurance. Depreciation. Alternative Investments and Replacements. Cost Estimation. Cost and Asset Accounting. Optimum Design. General Design Considerations. Waste Disposal and Treatment. The Design Report. Equipment Design and Fabrication. Materials Handling and Transfer Equipment—Design and Costs. Heat Transfer Equipment—Design and Costs. Mass Transfer Equipment—Design and Costs. Filters and Miscellaneous Equipment—Design and Costs. Appendices. Index.

VILBRANDT AND DRYDEN—Chemical Engineering Plant Design
By FRANK C. VILBRANDT, Virginia Polytechnic Institute; and CHARLES E. DRYDEN, The Ohio State University. *Series in Chem. Engg.* Fourth Edition.
534 *pp.*, 6 *x* 9, 138 *illus.* (1959)....$13.00*c*
During its past three editions this outstanding text has pioneered in the field of teaching chemical engineering plant design, both in educational institutions and in industry. The fourth edition continues this philosophy of teaching by guidance and examples, emphasizing the logical development of a chemical process from its inception in the research laboratory; carrying it through successive stages of pilot plant development, process design, preliminary plant design and economics; and pointing the way to final detailed project engineering in terms of

plant design and construction. A chapter on Nuclear Chemical Plant Design has been added to this edition, and the example problem used throughout Chapters 3–7 has been expanded in scope to yield a better teaching perspective in process and plant design. Many standard graphic design symbols and aids have been added.

CONTENTS—Preface. Introduction. Development of the Project. Process Design. Selection of Process Equipment and Materials. Plant Layout. Economic Evaluation of the Project. Locating the Chemical Plant. Site Preparation and Structures. Process Auxiliaries. Nuclear Chemical Plant Design. Additional Selected References. Appendix A. Design Project Procedure. Appendix B. Letter Symbols for Chemical Engineering. Appendix C. Table of Equivalents. Name Index. Subject Index.

WILLIAMS—Systems Engineering for the Process Industries

By THEODORE J. WILLIAMS, Monsanto Chemical Company, St. Louis, Missouri.

92 *pp.*, 6 *x* 9, 99 *illus.* (1961).....$4.95*c*

Explores the present status of systems engineering: what we already know, what we need to find out, and what our visions of the future show us, with particular reference to the chemical engineer. By means of a specific, functionalized example the author shows how systems engineering can be applied profitably. The author's concepts of systems engineering were presented, with the over-all process example, at the 4th annual Schoch Lecture, Oct. 16–17, 1959, at the University of Texas chemical engineering department.

CONTENTS—Process Research. Process Development. Preliminary Design. Process Plant Design. Plant Studies. Process Control. Control Theory. Mathematics of Control. Control Design. Systems Literature. Systems Literature (Continued). Use of Computers and Systems Engineering for Plant Unit Design. About the Future.

Electrochemistry

MANTELL—Electrochemical Engineering

By C. L. MANTELL, Newark College of Engineering. *Series in Chem. Engg.* Fourth Edition of INDUSTRIAL ELECTROCHEMISTRY.

680 *pp.*, 6 *x* 9 (1960).....$17.50*i*

This is the Fourth Edition of Dr. Mantell's INDUSTRIAL ELECTROCHEMISTRY. It has been retitled and almost completely rewritten to reflect the tremendous expansion that has occurred in the electrochemical and electroprocess industries since 1950. New products and processes, new sources of raw materials, the enormous increase in the size of cell and furnace units—these and all the other important developments of the last decade are covered with exceptional thoroughness. Industrial processes are emphasized throughout, but enough fundamental theory is given to provide a background for industrial practice. All of the many tables of data, photographs, and charts approximate current practice.

CONTENTS—Preface. Scope of the Electrochemical Industries. PART 1. THEORETICAL ELECTROCHEMISTRY. Electrical Units and Faraday's Laws. Electrolytic Dissociation and Conductance. Electromotive Force and Energy Relations. Electrolysis and Polarization, Analysis. Metal Deposition and Solution. PART 2. ELECTROLYTICS. Electroplating and Electroforming. Electrophoresis. Electrorefining. Electrowinning. Electrolysis of Alkali Halides and Sulfates. Hydrogen, Oxygen, and Deuterium. Electrolytic Reduction and Oxidation. PART 3. FUSED SALTS. Theory, Conductances, and Potentials of Fused Salts. Electrolysis of Fused Salts. PART 4. ELECTROTHERMICS. Electrothermics in General. Electric Furnaces for Metal Melting. Metallic Electrothermal Products. Calcium Carbide and Cyanamide. Nonmetallic Electrothermal Products. PART 5. ELECTROCHEMISTRY OF GASES. Electrical Discharges in Gases. PART 6. CHEMELECTRICS. Corrosion. Batteries. PART 7. ENGINEERING. Rectifiers and Lightning Arresters, AC to DC Conversion. Materials of Construction for Electroprocess Plants. Power Generation and Economics —Conversion Tables. Index.

Pyrometry

WOOD AND CORK—Pyrometry

By WILLIAM P. WOOD, University of Michigan, and JAMES M. CORK. Second Edition.

263 *pp.*, 6 *x* 9, *illus.* (1941).....$6.95*c*

A thorough text and reference book on the principles and methods of the accurate measurement of temperature. The construction, operation, and uses of pyrometers and thermometers are carefully described.

CONTENTS—Temperature Scales. Fluid Thermometers. Thermo-electric Pyrometers. Resistance Thermometers. Optical Pyrometers. Total Radiation Pyrometers. Temperature Recorders and Controlling Devices. Transition Points and Thermal Analysis. Refractory Materials Used in Pyrometry.

Natural Gas

KATZ, CORNELL, KOBAYASHI, POETTMANN, WEINAUG, VARY, ELENBAAS—Handbook of Natural Gas Engineering

By DONALD L. KATZ, University of Michigan, DAVID CORNELL, Oklahoma State University, RIKI KOBAYASHI, The Rice Institute, FRED H. POETTMANN, The Ohio Oil Company, C. F. WEINAUG, University of Kansas, JOHN A. VARY, Michigan Consolidated Gas Company, JACK R. ELENBAAS, Michigan Consolidated Gas Company. *Series in Chem. Engg.*

802 *pp.*, 8½ *x* 11, 887 *illus.* (1959).$37.50*hb*

Provides the information required by an engineer practicing in the natural gas industry. Background is given for the uninitiated practicing engineer, or for students studying the subject, but the conclusions usually are in the form design calculations or quantitative charts for determining the equipment needed or methods required for handling natural gas. Here, in one volume, is a full treatment—from the occurrence through the marketing of natural gas.

CONTENTS—Introduction to the Natural Gas Industry. Properties of Reservoir Rock. Phase Behavior of Natural Gas Systems. Properties of Natural Gases and Volatile Hydrocarbon Liquids. Water-hydrocarbon Systems. Measurement and Computation of Vapor-liquid Equilibria for Complex Mixtures Flow and Compression Calculations. Gas Flow Measurements. Drilling and Testing of Natural Gas Wells. Steady and Unsteady State Flow in Reservoirs. Development and Operation of Gas Fields. Gas from Condensate and Oil Fields. Field Separation and Oil Absorption Processes. Fractional Distillation. Low Temperature Processing. The Dehydration and Sweetening of Natural Gas. Transmission to Market. Underground Storage of Natural Gas. Conservation and Governmental Regulation. Appendix.

Coal Technology

WILSON AND WELLS—Coal, Coke, and Coal Chemicals

By PHILIP J. WILSON, JR., Carnegie-Illinois Steel Corporation, and JOSEPH H. WELLS, Mellon Institute. *Series in Chem. Engg.*

494 *pp.*, 6 *x* 9 (1950).....$13.00*r*

Provides an authoritative treatise on coal, high temperature coking, recovery of coal chemicals from the coke-oven gas, and distillation of the tar. Each phase of the industry is systematically covered, while other coal-carbonization processes, gas retorts, and lower-temperature-coking are also discussed.

CONTENTS—The Nature and Scope of Coal Carbonization. Fuels and Combustion. The Origin, Classification, and Properties of Coals. Characteristics of Coal for Carbonization. Preparation, Cleaning, and Storage

of Coal. Coke Ovens. The Coking Process in Byproduct Coke Ovens. High Temperature Coke. Gas. Ammonia and Ammonium Salts. Light Oil. Coal Tar. Coal Carbonization for Gas Manufacture. Some Low-temperature-Carbonization Processes and the Curran-Knowles Process. Economics of the Coal-carbonization Industry. Selected Bibliography. List of Plants for the Carbonization of Coal in the United States, December 31, 1946. List of Visual Aids.

Plastics Technology

LEE AND NEVILLE—Epoxy Resins
Their Applications and Technology
By HARRY LEE and KRIS NEVILLE, The Epoxylite Corporation.
305 *pp.*, 6 *x* 9, 176 *illus.* (1957)....$10.00*i*

A comprehensive guide to the field of epoxy resins, covering the chemistry of their preparation and their applications in industry. Available data on the resins are brought together, and information is given on their synthesis and curing mechanisms, curing agents, and the various materials used as fillers and modifiers, with emphasis on the engineering versatility, range, and potentialities of the epoxies.

CONTENTS—Epoxy Resins—Their Synthesis and Characterization. Curing of Epoxy Resins. Primary Aliphatic Amines and Their Adducts as Curing Agents. Amines, (continued). Amides, and Latent Curing Agents. Organic Acids and Acid Anhydrides as Curing Agents. Diluents, Fillers, and Resinous Modifiers. Plasticizers and Flexibilizers. Casting, Potting, Encapsulation, Sealing, and Lightweight Foams. Adhesives. Laminates. Coatings. Handling Methods and Safety Precautions. Chemical. Index.

PERRY AND WAGNER—Adhesive Bonding of Reinforced Plastics
By H. A. PERRY, Naval Ordnance Laboratory, White Oak, Md. Sponsored by Owens-Corning Fiberglas Corporation; Technical Coordinator, RICHARD H. WAGNER, Reinforced Plastics Laboratory.
267 *pp.*, 6 *x* 9, 129 *illus.* (1959).....$9.75*i*

A manual of theory and practice in the joining of glass reinforced plastics, together and to other materials, by the use of resinous adhesives. Shows how to design and produce adhesive bonded assemblies containing parts reinforced with glass fibers or similar fibrous materials—alone or combined with parts made of metals or other isotropic materials. Included are discussions of the advantages of adhesive bonding, stresses created by different joint geometries, and methods of testing adhesive bonded joints. The book also completely surveys equipment and techniques for producing adhesive bonded joints, such as resin mixing and dispensing, spraying, surface preparation, assembly and alignment, and heat curing. A glossary of both adhesive and reinforced plastic terms is provided.

CONTENTS—Adhesive Bonding: Past and Present. Mechanics of Adhesive Joints. The Statistical Point of View. Laminating Resins with Adhesives. Rheology of Adhesives. General Properties of Adhesives. Mechanical Testing of Adhesives. Adherend Materials. Adhesive Bonding Process Factors. Adhesive Bonding Equipment. Quality Control of Adhesive Bonds. Design of Adhesive Joints.

SCHMIDT AND MARLIES—Principles of High-polymer Theory and Practice
By ALOIS X. SCHMIDT, The College of the City of New York, and CHARLES A. MARLIES.
Series in Chem. Engg.
743 *pp.*, 6 *x* 9, *illus.* (1948).....$14.50*r*

Gives a comprehensive treatment of the fundamental principles, concepts, and practices applicable to all materials of high molecular weight. It fosters a basic understanding of the formation, properties, manufacture, development, fabrication, and application of the many high-polymer materials.

CONTENTS—Introductory Definitions and Concepts. Molecular Forces. Some Special Behaviors and Properties of High Polymers. Polymer Formation and Modification. Structures of High Polymers. Solubility and Molecular Weight Relations. Rheology. Molding and Manipulation. Mechanical Properties. Electrical, Thermal, and Optical Properties. Fibers and Fibrous Products. Rubbers. Surface Coatings. Adhesives. Resin Product Development: Phenolic Resins. Appendix. Index.

WINDING AND HIATT—Polymeric Materials
By CHARLES C. WINDING, Cornell University; and GORDON D. HIATT, Eastman Kodak Company.
406 *pp.*, 6 *x* 9, 431 *illus.* (1961)....$12.75*r*

Provides, in the broadest coverage available, an introduction to the wide field of polymeric materials which will enable the reader to understand their chemical, physical, and engineering principles and applications in plastics, rubber, protective coating, and textile fiber industries. An early introduction to polymer chemistry, molecular structure, and properties, is followed by a treatment of fabricating methods and applications, all involving fundamentals common to a large number of different polymers. Specific commercial polymers are then discussed in detail.

CONTENTS—Polymer Structure and Polymerization Reactions. Solutions and Molecular Weights of Polymers. General Properties of Plastics. General Applications of Polymeric Materials. General Applications of Polymeric Materials (Continued). Natural Products and Their Derivatives. Polymers Formed by Condensation Reactions. Ethenic Polymers. Silicones. Rubbers.

Food Technology

PRESCOTT AND PROCTOR—Food Technology
By SAMUEL C. PRESCOTT, formerly Massachusetts Institute of Technology, and BERNARD E. PROCTOR, Massachusetts Institute of Technology.
630 *pp.*, 6 *x* 9, *illus.* (1937).....$12.00*c*

A comprehensive survey of the sources, methods of handling, and manufacture of the principal commercial foods. Emphasis is on biological and technological chemistry and the sound treatment of such processes as refrigeration, canning, dairy products, quick freezing, etc. The authors discuss the manner in which foods are harvested, transported, manufactured, and prepared for use; why certain processes are utilized; and how the methods are practiced.

CONTENTS—Introduction. Wheat and Milling. Corn and Corn Products. Minor Cereals. Vegetables. Fruits. Sugars and Sirups. Meat and Meat Products. Fish and Fish Products. Poultry and Eggs. Milk. Dairy Products. Baking. Canning. Refrigeration. Dehydration. Salt. Vinegar, and Pickled Products. Vegetable Oils. Mayonnaise. Fruit Juices. Jellies and Jams. Confectionery. Coffee, Tea, and Spices.

BALL AND OLSON—Sterilization in Food Technology
By C. OLIN BALL, Rutgers University, and F. C. W. OLSON, Florida State University.
Series in Food Tech.
654 *pp.*, 6 *x* 9, 160 *illus.* (1957).....$20.00*i*

Covers the theory of the destruction of organic cells by lethal energy, shows the development of mathematical methods of predicting such destruction, illustrates the use of these methods, and describes past and present practice in the commercial use of sterilizing processes applied to canned goods and pharmaceuticals. The prediction of the destruction of desirable elements such as vitamins and quality of foods is also covered.

CONTENTS—Introduction. The Science and Engineering of Processing Food for Sterilization. Foundation of Process Calculation Methods. Bacteriology. Elements of Heat Penetration. Mathematics of Conduction Heating. Theory of Heating Curves. Mathematics of Convection Heating. Mechanics of Heat Transfer. Inoculated Packs. General Method. Formula Method. Formula and General Methods—Additional Symbols, Equations, and Examples. New Formula Method. Evaluation of Organoleptic Quality. Miscellaneous Topics on Process Calculation. Index.

CRUESS—Commercial Fruit and Vegetable Products

By W. V. CRUESS, Emeritus, University of California. *Pub. in Agr. Sc.* Fourth Edition.
884 *pp.*, 6 *x* 9, 125 *illus.* (1958)....$16.50*c*

An extensive revision of a standard text and reference book for college classes in food technology. The fourth edition takes account of the productive research which has been done in the field in the past ten years both in the basic sciences concerned and in their operation, and the many advances which have been made in the technology of canning, freezing, juice production and the manufacture of citrus products and certain other fruit and vegetable products.

CONTENTS—Preface. General Principles and Methods. Brief History of Canning. Tin and Glass Containers. General Considerations in Establishing a Cannery. Washing, Blanching, and Peeling Fruits and Vegetables. Grading Fruits and Vegetables for Canning. Sirups and Brines Used in Canning. Exhaust and Vacuum. Processing of Canned Fruits and Vegetables. Canning of Fruits. Pickling and Canning of Olives. Canning of Vegetables. Spoiling of Canned Foods. Unfermented Fruit Beverages. Fruit and Vegetable Sirups and Concentrates. Pectin, Jellies and Marmalades. Fruit Jams, Butters. Preserves and Confections. Tomato Products. Sun Drying of Fruits. Dehydration of Fruits. Dehydration of Vegetables. Packing of Dried Fruits and Vegetables. Vinegar Manufacture. Pickles. Olive, Avocado, Grape Seed and Coconut Oils. Utilization of Waste Fruits and Vegetables and Disposal of Wastes. Citrus By-Products. Packing Cases and Other Packages. Frozen-Pack Fruits and Vegetables. Vitamins. Plant Pigments and Related Compounds. Enzymes of Fruits and Vegetables. Plant Sanitation. Index.

Glass Engineering

SHAND—Glass Engineering Handbook

By E. B. SHAND, Corning Glass Works. Second Edition.
471 *pp.*, 6 *x* 9, *illus.* (1958).....$11.50*hb*

An encyclopedic handbook on the composition, manufacture, properties, and applications of glass as an engineering material. Gives practical data on the use of glass and glass products in industry, engineering, research, and other fields such as electron-tube manufacture, the nuclear field, guided missiles, and the automotive field. In addition to coverage of the more commonly known glasses, there is information on such topics as photosensitive glass, glass-ceramics, electrically conducting glass, glass in electronic circuit components, glass-reinforced plastics, and others. Numerous tables of data, charts, and related information make the book valuable for quick reference.

Ceramic Engineering

NORTON—Refractories

By F. H. NORTON, Massachusetts Institute of Technology. Third Edition.
782 *pp.*, 6 *x* 9, 419 *illus.* (1949)....$14.50*r*

Deals mainly with the fundamental processes involved in the manufacture and use of refractories. Material on non-plastic casting, hydrostatic molding, hot pressing, laboratory furnaces, properties of pure refractory materials, refractories for nuclear power generation, and refractories for jet propulsion is included.

CONTENTS—INTRODUCTION. Scope of the Refractories Industry in the United States. Literature on Refractories. History of Refractory Development in the United States. Some Fundamental Concepts of Matter in the Solid State. MANUFACTURE. Refractory Raw Materials. The Mining and Preliminary Treatment of Refractory Materials. Molding Methods. Drying. The Firing of Clay and Other Refractory Materials. Kilns for Burning Refractories. Laboratory Kilns and Furnaces. Refractory Mortars. Plastics, Concretes, and Coatings. Some Special Refractory Materials. PROPERTIES. The Fusion Point of Refractory Materials and Their Equilibrium Diagrams. Load Bearing Capacity of Refractories. Spalling. The Reaction between Refractories and Slags or Glasses. Expansion and Shrinkage. Heat Transmission by Refractories. Sizes and Tolerances. Miscellaneous Properties of Refractories. Refractories of the Iron and Steel Business. Refractories in the Non-ferrous Metal Industry. Refractories in the Generation of Steam Power. Refractories for Atomic Power Development. Refractories for Gas Turbine and Jet Propulsion Engines. Use of Refractories in Miscellaneous Industries. Brickwork Construction. Appendix. Index.

Metallurgy and Material Science

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AMERICAN SOCIETY OF TOOL AND MANUFACTURING ENGINEERS—Machining with Carbides and Oxides

Edited by FRANK W. WILSON.

524 *pp.*, 6 *x* 9, 371 *illus.* (1962)....$14.50*i*

Gathers together the most significant and practical data available on tool materials, machinability, planning, and the economics associated with modern metal removal. Includes descriptions and comparisons of all material removal methods. Provides comprehensive treatments of machine tools; workholders; processing methods; tool design; and machining variables. Discusses reasons underlying selection of each removal method and specific tool design.

BURTON—Applied Metallurgy for Engineers

By MALCOLM S. BURTON, Cornell University.

407 *pp.*, 6 *x* 9, 329 *illus.* (1956)....$9.50*c*

Develops the metallurgical principles involved in casting, metalworking, welding, heat treatment, and powder metallurgy; then studies these manufacturing processes from an engineering viewpoint, including the metallurgical factors that control selection of suitable processses, and the influence of the processes on the final products.

CONTENTS—The Nature of Metals. Methods of Metallurgical Examination. Mechanical Testing. Phases, Phase Changes, and Phase Diagrams. Production of Metals. Principles of Heat Treatment. Heat-treating Techniques. Surface-hardening Methods. Foundry Metallurgy. Casting Processes. Molding Materials. Foundry Technology. Theory of Metalworking. Hot-working Processes. Cold-working Processes. Metallurgical Binding of Metals. Welding Processes. Brazing and Soldering. Welding Metallurgy. Gas and Arc Cutting. Powder Metallurgy.

MONDOLFO AND ZMESKAL—Engineering Metallurgy

By L. F. MONDOLFO, Illinois Institute of Technology, and OTTO ZMESKAL, The University of Toledo.

382 *pp.*, 6 *x* 9, 204 *illus.* (1955)....$8.95*c*

A clear and comprehensive treatment of both the theory and practice of metallurgy. Detailed descriptions of methods and operations follow an introductory section on the basic theory of metallurgy. Rather than cataloging the properties of individual metals, the authors bring out the underlying unity of the behavior of metals, thus simplifying the understanding of how and why metals behave as they do.

CONTENTS—Extraction of Metals. Atoms and Crystals. Equilibrium Diagrams. Structure and Properties of Alloys. Casting Principles. Casting Practice. Plastic Deformation and Annealing. Plastic Working Practice. Phase Transformations in the Solid State. Annealing and Heat-treatment Practice. Joining. Powder Metallurgy. Corrosion and Protection. Iron and Similar Metals. Nonferrous Metals. Index.

Physical Metallurgy

AVNER—An Introduction to Physical Metallurgy

By SIDNEY H. AVNER, New York City Community College.

In Press

Considers the various aspects of metals used in industry—design, development, heat treatment, and reasons for failure. The text follows a logical development—from fundamentals, including use of tools and common mechanical failures, to properties and practical applications. It presents simplified explanations of atomic, metal, and crystal structure and considers how various metals react under load. Tool steels are discussed under AISI classification; reasons for typical failure of tools are presented. The text also considers the behavior of metals at high and low temperatures, corrosion resistance, and the fundamentals of extractive metallurgy. Numerous questions and references are scattered throughout the text.

CONTENTS—Preface. Introduction. Tools of the Metallurgist. Metal Structure and Crystallization. Plastic Deformation. Annealing and Hot Working. Constitution of Alloys. Equilibrium Diagrams. The Iron-Iron Carbide Equilibrium Diagram. The Heat Treatment of Steel. Alloy Steels. Tool Steels. Wrought Iron and Cast Iron. Nonferrous Metals and Alloys. Wear of Metals. Metals at High and Low Temperatures. Corrosion of Metals. Powder Metallurgy. Extractive Metallurgy. Index.

WILLIAMS AND HOMERBERG—Principles of Metallography

By R. S. WILLIAMS and V. O. HOMERBERG, Massachusetts Institute of Technology. *Metall. Engg. Series.* Fifth Edition.

319 *pp.*, 6 *x* 9, 328 *illus.* (1948).....$7.50*c*

Emphasis is placed on the applications of metallography, rather than on the physical-chemical principles. In the fifth edition the sections dealing with copper alloys, magnesium alloys, and aluminum alloys are rewritten. The discussion of bearing metals is consolidated and the treatment of the hardening and tempering of steel expanded. A description of hardenability is added, and material on alloy steels, cast irons, and case hardening is included.

CONTENTS—Preface. The Simple Alloy Diagram. The Alloy Diagram and Its Meaning. Deformation and Annealing of Metals. The Nonferrous Alloys of Technical Importance. Iron and Steel. The Macroscopic Examination of Steel. Laboratory Methods. Appendix. Index.

BIRCHENALL—Physical Metallurgy

By C. E. BIRCHENALL, University of Delaware. *Metall. Engg. Series.*

310 *pp.*, 6 *x* 9, 207 *illus.* (1959).....$9.50*c*

This textbook for advanced undergraduate students in engineering and science deals with the relations among structures, properties, and reactions of metals and alloys. Structures and equilibria are dealt with first, then the kinetics of physical and chemical reactions are considered with emphasis on plastic deformation mechanisms, diffusion and solid-solid reactions. The notion of crystalline imperfections is used frequently as a basis for explaining experimental observations.

CONTENTS—Introduction; Physical and Process Metallurgy. Perfect and Imperfect Crystals. Binding in Crystals. Phase Equilibria; The Phase Rule. The Structure of Alloys. Elastic and Plastic Properties of Metals. Properties of Metals and Alloys. The Growth of Metal Crystals. Diffusion in Solid Metals and Oxides. Electrolytic Corrosion. Recovery, Recrystallization, and Grain Growth. Age Hardening; Precipitation from Solid Solution. Decomposition of Austenite.

BRICK AND PHILLIPS—Structure and Properties of Alloys

By R. M. BRICK, Continental Can Company, and ARTHUR PHILLIPS, Yale University. *Metall. Engg. Series.* Second Edition.

485 *pp.*, 6 *x* 9, 367 *illus.* (1949)....$9.95*c*

Outlines the correlation of phase diagrams, structures, and properties, proceeding in order from the simplest type of alloys to the most complex. Treats nonferrous metals, chiefly aluminum and copper base alloys, and steels and irons.

CONTENTS—Introduction. Requisite Tools of the Metallurgist. Commercially Pure Metals. Solid Solutions: Copper-base Alloys. Cold-working and Annealing. Cast Eutectic Alloys: Lead-base Systems. Age-hardening: Cast- and Wrought-aluminum Alloys. Alloys of Magnesium. Phase Transformations: Two-phase Copper

Alloys. Iron-carbon Alloys: Normalized and Annealed Steels. Theory of Heat Treatment of Steels. Heat-treated Engineering Steels: Plain Carbon and Alloy Types. Carbon and Alloy Tool Steels. Special Corrosion and Heat-resistant Alloys. Cast Irons. Monotectics: Sintered Metal Powders. Generalizations. Index.

BUTTS—Metallurgical Problems

By ALLISON BUTTS, Lehigh University. *Metall. Engg. Series.* Second Edition.

446 *pp.*, 6 *x* 9, 14 *illus.* (1943).....$8.50*c*

Presents practical problems designed to accompany courses in metallurgy; outlines and gives examples of methods used in calculation; and supplies tables with the necessary data.

CONTENTS—Quantities and Units. The Chemical Equation. Combustion. Manufacture of Coke and Producer Gas. Thermochemistry and Thermophysics. The Iron Blast Furnace. The Bessemer, Open-hearth, and Electric Steel Processes. Production of Blast and Draft. The Heat Balance. Calculation of Charges for Smeltering. Alloys. The Mass Law and Chemical Equilibrium in Metallurgical Reactions. Drying and Calcining. Roasting and Sintering. Copper Smelting and Converting. Electrolytic Processes. Hydrometallurgy. Metallurgy of Aluminum and Magnesium. Volatilization of Metals in Melting. Metallurgy of Lead. Transfer of Heat. Distillation Processes. Vapor Pressure and Temperature-pressure Relations in Chemical Reactions. Thermodynamics of Chemical Reactions. Tables.

DARKEN AND GURRY—Physical Chemistry of Metals

By L. S. DARKEN, United States Steel Corporation and Polytechnic Institute of Brooklyn, and R. W. GURRY, United States Steel Corporation. Problems by Michael B. Bever, M.I.T. *Metall. Engg. Series.*

528 *pp.*, 6 *x* 9, 181 *illus.* (1953)....$13.00*c*

Presents the fundamental aspects of the physical chemistry of the metallic state and metallurgically related substances to metallurgists with a minimum knowledge of physical chemistry and to chemists with a minimum knowledge of metals. The first part is devoted to a description of the solid and liquid states of metals and alloys. In the second part, chemical thermodynamics is developed from first principles and related directly to metallurgical examples.

CONTENTS—Preface. Introduction. Gases. Solids. Solid Solutions and Intermetallic Compounds. Liquids. The First Law of Thermodynamics. The Second Law of Thermodynamics; Entropy and Free Energy. The Third Law of Thermodynamics. Fugacity, Activity, and the Equilibrium Constant. Solutions. Phase Relations. Heterogeneous Equilibria. Free-energy-composition Diagrams. Temperature-Pressure Diagrams. Nitrogen in Iron and Steel. The Iron-Carbon System. Electrochemistry; Reversible Cells. Formal Basis of Diffusion Theory. Kinetics of Metallurgical Processes. Problems. Index.

DOAN—Principles of Physical Metallurgy

By GILBERT E. DOAN, Koppers Co., Pittsburgh, Pa. Third Edition.

528 *pp.*, 6 *x* 9, 181 *illus.* (1953).....$8.50*c*

Supplies a unified account of present day knowledge of metals and alloys. The explanation of metallic properties in terms of atoms and electrons replaces the mere comparison of metals as to these properties, insofar as possible. The mechanisms of deformation and annealing have been revised in accord with recent findings in this field. New casting techniques, including investment casting and directional solidification methods for sand casting, have been added. New testing methods, such as supersonic testing, brittle lacquers and strain gauges, are given some attention.

CONTENTS—Part I—The Physics of Metals. The States of Aggregation. The Physical Properties of Metals. The Mechanical Properties of Metals. Their Change with Temperature. Part II—Metallography. The Constitution of Binary Alloys. The Phase Rule. The Crystal Structure of Binary Alloys. Non-equilibrium in Binary Alloys. Quenching. Aging. The Structures of Ternary Alloys: Conditions at Equilibrium. The Properties of Alloys. Part III—Metal Technology. The Shaping of Metals. The Heat-treatment and Surface Treatment of Metals. The Testing of Metals. Commercial Alloys, Processes and Problems. Index.

FRIER—Elementary Metallurgy

By W. T. FRIER, Instructor in Metallurgy, Pennsylvania State College Extension, Erie, Pennsylvania. Second Edition.

258 *pp.*, 5½ *x* 8, 129 *illus.* (1952)....$5.00*y*

Presents the characteristics of metals in a way that can easily be understood by those with little preliminary knowledge of metallurgy or chemistry.

CONTENTS—Iron, Steel, Cast and Wrought Iron. Constitution Diagrams of the Alloys. The Iron-Iron Carbide System. Heat-treatment of Steel. Methods of Forming Metals. Grain Structure of Metals. Alloy Steels. Nonferrous Alloys. Testing of Metals.

KEHL—Principles of Metallographic Laboratory Practice

By GEORGE L. KEHL, Columbia University. *Metall. Engg. Series.* Third Edition.

520 *pp.*, 6 *x* 9, 205 *illus.* (1949).....$9.50*c*

Deals with the principles of physical metallurgy, especially as they underlie effective laboratory practice. Covers apparatus and procedures for preparation of specimens, examination, testing, giving detailed instructions for carrying out a number of important manipulations. New photomicrographs constitute an important part of the book.

CONTENTS—Preparation of Specimen for Microscopic Etching of Specimens for Microscopic Examination. Metallurgical Microscopes and Photomicrography. The Principles of Photography. Macroscopic Examination of Metals. Hardness Testing. Special Metallurgical Tests. The Principles of Pyrometry and Pyrometric Practice. Thermal Analysis. Appendix. Index.

BARRETT—Structure of Metals

By C. S. BARRETT, University of Chicago. *Metall. Engg. Series.* Second Edition.

648 *pp.*, 6 *x* 9, 397 *illus.* (1952).....$13.00*c*

A text and reference book on the atomic arrangement in metals (solid and liquid). The first part covers the fundamentals of crystallography. The second part gives comprehensive summaries of the published literature on the structure of solid and liquid metals and alloys.

CONTENTS—Preface. The Fundamentals of Crystallography. The Stereographic Projection. X-rays. Diffraction of X-rays by Crystals. The Laue and Fixed-crystal Methods. Rotating-crystal Methods and the Reciprocal Lattice. The Powder Method. The Determination of Crystal Structure. Pole Figures and Orientation Determinations. Determination of Constitution Diagrams with X-rays. Structure of Metals and Alloys. Superlattices. The Electron Theory of Metals and Alloys. Stress Measurement by X-rays. The Plastic Deformation of Metals. Dislocation Theory. The Structure of Cold-worked Metal. Preferred Orientations Resulting from Cold Work. Preferred Orientations after Annealing. Orientations in Castings and in Deposited Films. Anisotrophy. Age Hardening and Transformations. Diffraction of Electrons, Atoms, and Neutrons. Appendixes.

SEITZ—The Physics of Metals

By FREDERICK SEITZ, University of Illinois, *Metall. Engg. Series.*

330 *pp.*, 5½ *x* 8, 162 *illus.* (1943)...$8.95*c*

Covers the structure of metals, factors determining the stability of alloys, the theory of plasticity of metals, diffusion in metals, the theory of iron-carbon alloys, the electron theory of solids and its applications to cohesion, magnetism, and conductivity.

CONTENTS—Atomic Arrangements in Metals. The Periodic Chart. Substitutional and Interstitial Alloys. The Physical Form of Alloys. The Elastic Properties of Crystals. The Plastic Properties of Single Crystals. The

Plastic Properties of Polycrystalline Media. The Plastic Properties of Alloys. Creep and Secondary Plastic Effects. Internal Friction. Rupture and Fatigue. Diffusion in Metals. The Solubility of Gases in Metals. The Properties of Iron-Carbon Alloys. Introduction to the Concepts of Modern Physics. The Development of the Electron Theory of Metals. The Band Theory of Solids. The Cohesion of Solids. Alloys. The Magnetic Properties of Metals. The Electrical Conductivity of Metals.

Phase Diagrams

HANSEN—Constitution of Binary Alloys
By MAX HANSEN, Metallgesellschaft A.G., Frankfurt-Main, Germany; in cooperation with KURT ANDERKO, Metallgesellschaft A.G., Frankfurt-Main, Germany. *Metall. Engg. Series.* Second Edition.
1305 *pp.*, 6 *x* 9, 684 *illus.* (1958)....$39.50*i*

This revision and translation of the German work provides a source of reliable data concerning the constitution of binary alloy systems (phase diagrams) and the crystal structure of metallic phases. Widely scattered information in the world's metallurgical, physical, chemical, and crystallographical literature is analyzed and critically evaluated. About 9600 literature references were considered and are included. Diagrams are presented in atomic per cent rather than weight per cent, and the present edition contains 684 diagrams and 1286 systems.

CONTENTS—Preface. Introduction. Systems are arranged in alphabetical order of the chemical symbols of the elements. Appendix. Index of Elements.

RHINES—Phase Diagrams in Metallurgy
Their Development and Application
By FREDERICK N. RHINES, University of Florida. *Metall. Engg. Series.*
340 *pp.*, 6 *x* 9, 310 *illus.* (1956)....$12.50*c*

Presents phase diagrams in a manner to be of most use to engineers whose primary interest is in their application to metallurgical problems. It begins with one component system, progressing through binary, ternary and quaternary systems, ending with a brief treatment of pressure-temperature diagrams. All examples are drawn from metallurgy.

CONTENTS—Introduction. Unary Systems. Binary Isomorphous Systems. Binary Eutectic Systems. Binary Eutectoid Systems. Binary Monotectic Systems. Congruent Transformations in Binary Alloys. Binary Peritectic Systems. Binary Peritectoid Systems. Binary Syntectic Systems. Complex Binary Phase Diagrams. Ternary Isomorphous Systems. Ternary Three-phase Equilibria. Ternary Four-phase Equilibrium, Class II. Ternary Four-phase Equilibrium, Class III. Congruent Transformation in Ternary Alloys. Complex Ternary Phase Diagrams. Multicomponent Systems. Pressure-temperature Diagrams. Determination of Phase Diagrams. Appendix. Greek Alphabet. Atomic Weights of the Elements. The Interconversion of Atomic, Weight, and Volume Percentages in Binary and Ternary Systems. Temperature-conversion Tables. Some Thermodynamic Applications. Index.

Mechanical Metallurgy

DIETER—Mechanical Metallurgy
By GEORGE E. DIETER, Drexel Institute of Technology, Philadelphia. *Metall. Engg. Series.*
615 *pp.*, 6 *x* 9, 267 *illus.* (1961)....$13.00*c*

This book includes the entire scope of mechanical metallurgy in one comprehensive volume. Part I, presents the mathematical framework for many of the chapters which follow. Part II, deals with the structural aspects of plastic deformation and fracture. Part III, covers the engineering aspects of the common testing techniques and methods of mechanical failure of metals. Part IV, presents the common mechanical processes for producing useful metal shapes.

CONTENTS—Preface. Notation. Introduction. Stress and Strain Relationships for Elastic Behavior. Elements of the Theory of Plasticity. Plastic Deformation of Single Crystals. Plastic Deformation of Polycrystalline Aggregates. Dislocation Theory. Fracture. Internal Friction. The Tension Test. The Torsion Test. The Hardness Test. Fatigue of Metals. Creep and Stress-Rupture. Brittle Failure and Impact Testing. Residual Stresses. Statistics Applied to Materials Testing. General Fundamentals of Metal Working. Forging. Rolling of Metals. Extrusion. Rod, Wire, and Tube Drawing. Sheet Metal Forming.

SINES AND WAISMAN—Metal Fatigue
Edited by GEORGE SINES, University of California, Los Angeles, and J. L. WAISMAN, Tatnall Measuring Systems Co. *Univ. of Cal. Engg. Exten. Series.*
432 *pp.*, 6 *x* 9 (1959).....$12.50*i*

By seeking the leading authority for each subject and putting the key information into print, the editors have successfully compiled the most rational exposition of fatigue of materials ever to appear in a single volume. Much of the subject matter is new, including information previously found only in scattered technical journals. Critically selected bibliographies are provided, and the introduction includes a guide to fatigue literature for those not thoroughly familiar with the field.

CONTENTS—Preface. INTRODUCTION. The Problem of Metal Fatigue by J. L. Waisman and George Sines. Factors Affecting Fatigue Strength, by J. L. Waisman. FATIGUE FAILURE MECHANISMS. Basic Concepts of Fatigue Damage in Metals, by Thomas J. Dolan. Fatigue Cracks and Fracture Surfaces—Mechanics of Development and Visual Appearance, by R. E. Peterson. FATIGUE TESTING. Laboratory Fatigue Testing of Materials, by E. C. Hartmann and F. M. Howell. The Statistical Planning and Interpretation of Fatigue Tests, by Frank A. McClintock. ANALYSIS OF INFLUENCING FACTORS. Behavior of Metals under Complex Static and Alternating Stresses, by George Sines. Influence of Residual Stress on Fatigue, by D. Rosenthal. Techniques of Surface Stressing to Avoid Fatigue, by Henry O. Fuchs. Fatigue of Materials at High Temperatures, by Horace J. Grover. LOAD ANALYSIS. Operational Loads on Aircraft, by R. L. McDougal. Estimation of Fatigue Life with Particular Emphasis on Cumulative Damage, by Milton A. Miner. STRUCTURES AND MACHINES. Notch-sensitivity, by R. E. Peterson. Estimation of Fatigue Life of Welded, Riveted, and Bolted Structures, by Horace J. Grover. Detail Design for Fatigue in Aircraft Wing Structures, by E. H. Spaulding. Fatigue in Rotary Wing Aircraft, by Clay C. Boswell, Jr., and R. A. Wagner. Fatigue Cracking, Fatigue Damage, and Their Detection, by R. H. Christensen. Index.

Corrosion

SPELLER—Corrosion
Causes and Prevention
By FRANK N. SPELLER, Corrosion Consultant. Third Edition.
664 *pp.*, 6 *x* 9, *illus.* (1951).....$15.00*i*

Offers a simple, easy-to-understand explanation of the mechanism of corrosion and of the practical methods of prevention. Dealing particularly with the ferrous metals, the book tells what corrosion prevention means in elimination of waste—explains corrosion, the kinds there are, and the factors of their nature and occurrence—shows how to prevent corrosion in various fields of engineering work—and talks about the economic aspects of corrosion prevention.

CONTENTS—Nature and Mechanism of Corrosion—Theories of Corrosion. Influence of Methods of Manufacture and Treatment. Influence of Factors Internal to the Metal—Composition. Influence of Factors External

to the Metal—Classification of Corrosion. Principles and Methods of Corrosion Testing. Prevention of Corrosion in the Atmosphere. Prevention of Corrosion Underwater. Prevention of Corrosion in Closed Water Systems by Removal of Dissolved Gases. Prevention of Corrosion in Steam Generators. Prevention of Corrosion in Steam and Hot-water Heating Systems. Prevention of Corrosion Underground. Stray-current Corrosion (Electrolysis). Cathodic Prevention.

Nonferrous Metallurgy

LIDDELL—Handbook of Nonferrous Metallurgy

By DONALD M. LIDDELL, Editor-in-Chief, assisted by 33 specialists. Second Edition.

An authoritative engineering handbook of professional reference data. Those operations, apparatus and methods which are fundamental to all branches of nonferrous metallurgy receive first treatment, followed by separate chapters on the metallurgy of the individual metals. Each chapter is the work of one or more specialists.

VOLUME I—Principles and Processes

656 *pp.*, 5¾ *x* 8¾, 308 *illus.* (1945) $14.00*hb*

CONTENTS—Drying. Crushing. Sampling. Screening. Classification. Concentration. Flotation. Dewatering. Filtration. Metallurgical Fuels. Pyrometry. Roasting and Sintering. Refractories. Separation of Solids and Liquids from Gases. Briquetting Applied to Metallurgy. Power Plant and Accessories. Materials of Metallurgical Construction. Plant Layout. The Electric Furnace in Nonferrous Metallurgy. Applied Electrochemistry.

Mineral and Ore Dressing

GAUDIN—Principles of Mineral Dressing

By ANTOINE M. GAUDIN, Massachusetts Institute of Technology.

543 *pp.*, 6 *x* 9 (1939) $13.00*c*

Mineral dressing is studied from the Unit-Process standpoint in this text. Each process, in turn, is analyzed from its physical and chemical principles while the ultimate objectives of the art and its philosophy are kept in view. Includes numerous references and illustrations.

CONTENTS—Introduction. Crushers. Laboratory Sizing. Liberation. Grinding. Attributes of Comminution. Industrial Screening. The Movement of Solids in Fluids. Classification. Quantifying Concentrating Operations. Heavy-fluid Separation. Jigging. Flowing-film Concentration and Tabling. Flocculation and Dispersion. Flotation and Agglomeration—Physical Aspects; Chemical Aspects; Technology. Magnetic Separation. Miscellaneous Processes. Separation of Solids from Fluids. Auxiliary Operations. Mineral Dressing as an Art.

RICHARDS AND LOCKE—Textbook of Ore Dressing

By ROBERT H. RICHARDS and CHARLES E. LOCKE, Massachusetts Institute of Technology. Third Edition.

570 *pp.*, 6 *x* 9, 92 *tables*, 300 *illus.* (1940) $13.00*c*

The dressing of minerals is covered on the basis of world practice from the standpoint of underlying principles and unchanging data, which have been generalized as far as possible. Dealt with in considerable detail are plant equipment, comparative efficiency, costs of operation, speed, capacity, water power, and life of machines. Typical mills in the most important mineral districts of the world have been selected for description.

CONTENTS—General Principles. Preliminary Breaking. Rolls. Steam Stamps. Gravity Stamps and Amalgamation. Grinders Other than Gravity Stamps. Laws of Crushing. Preliminary Washing and Hand Sorting. Sizing by Screens. Classifying and Settling in Water. Coarse-Sand Concentrating by Jigs. Fine-Sand Concentrating. Slime Concentrating. Miscellaneous Processes of Separation. Flotation Processes. Accessory Apparatus. Mill Principles and Processes. General Considerations. Coal Dressing.

Flotation

GAUDIN—Flotation

By A. M. GAUDIN, Massachusetts Institute of Technology. Second Edition.

554 *pp.*, 6 *x* 9, 243 *illus.* (1957) $14.50*r*

Presents the technology of the flotation art so as to facilitate the intelligent control of the process by the practicing mineral engineer and metallurgist; and raises scientific questions as yet unsolved, to stimulate the curiosity and critical interest of the physical chemist and the research metallurgist.

CONTENTS—Introduction by Theodore J. Hoover. Historical Survey. The Phases in Flotation Systems. The Gas-solution Interface. Interfaces Involving Solids. Electrical Effects at Interfaces. Stability of Mineral Suspensions. Contact Angles. Collectors. Mechanism of Collection. Modulation of Collection. Froths. Kinetics. Mineralogy. Middling Particles and Liberation. Flotation Machines. Sulfide Ores. Ores of Oxygen Minerals. Salines. Nonpolar Minerals. Miscellaneous Organic Materials. Index.

Material Science

SHEWMON—Diffusion in Solids

By PAUL G. SHEWMON, Carnegie Institute of Technology. *Series in Mtl. Sc. & Engg.*

216 *pp.*, 6 *x* 9, 71 *illus.* (1963) $9.50*c*

This book provides a coherent, complete treatment of diffusion in solids. It provides a clear interpretation of the phenomena studied and their theoretical interpretation, developing a broad understanding of the theories and experiments basic to the field. A detailed and complete discussion is given on the problem of correlation effects in diffusion in metals and ionic crystals. Suitable both as a textbook and as a reference.

PAUL AND WARSCHAUER—Solids under Pressure

Edited by WILLIAM PAUL, Harvard University; and DOUGLAS WARSCHAUER, Raytheon Company, Waltham, Mass. *Series in Mtl. Sc. & Engg.*

478 *pp.*, 6 *x* 9, 155 *illus.* (1963) $15.00*r*

This book consists of 14 articles by prominent workers in the field, who review the particular phase of investigation of solids under pressure centered around their own specialty. The papers give a condensed but readable resume of the significance of the work to date, and also present new data. More important, an attempt is made to extrapolate the probable line of progress of this research in the next few years, particularly in the higher pressure ranges now available.

CONTENTS—General Outlook on the Field of High Pressure Research, by P. W. Bridgman, Harvard University. Pressure as a Parameter in Solid State Physics, by A. W. Lawson, University of California, Riverside. Effect of High Pressure on Diffusion, by David Lazarus, University of Illinois; and Norman H. Nachtrieb, University of Chicago. Continuum Models of the Effect of Pressure on Activated Processes, by Robert W. Keyes, IBM Research Laboratory, Yorktown Heights, N.Y. The Equation of State of Solids at Low Temperature, by N. Bernardes and C. A. Swenson, Iowa State University. Some Geophysical Applications of High-pressure Research, by Francis Birch, Harvard University. Solid-Liquid and Solid-Solid Phase Transitions in Some Pure Metals at High Temperatures and Pressures, by George C. Kennedy and Robert

C. Newton, University of California, Los Angeles. The Role of Pressure in Semiconductor Research, by William Paul and Douglas M. Warschauer. Magnetic Resonance in Solids under High Pressure, by George Benedek, Massachusetts Institute of Technology. Magnetic Properties of Solids under Pressure, by J. S. Kouvel, General Electric Research Laboratory, Schenectady, New York. Some Equilibria and Transformations in Metals under Pressure, by Larry Kaufman, Manufacturing Laboratories, Inc., Cambridge, Mass. The Electronic Structure of Solids under Pressure, by H. G. Drickamer, University of Illinois. Physics Experiments with Strong Pressure Pulses, by Berni J. Alder, University of California, Lawrence Radiation Laboratory, Livermore, Calif. Review and Prospect, by Harvey Brooks, Harvard University. BIBLIOGRAPHY OF HIGH PRESSURE TECHNIQUE. INDEX.

Mining Engineering

YOUNG—Elements of Mining

By GEORGE J. YOUNG, formerly *Engineering and Mining Journal*. Fourth Edition.

755 *pp.*, 6 *x* 9, 328 *illus.* (1946).....$9.50*c*

A comprehensive view of the mining problem, offering a wealth of material succinctly presented in a clearly written and well balanced treatment. Emphasizes fundamental engineering principles and covers cost analyses, examples of cost, and dimensional data established by mining practice. The text is restricted to underground methods of mining unstratified mineral deposits with necessary references to open pit and alluvial mining.

CONTENTS—Introduction. Prospecting. Boring. Drilling for Blasting Purposes. Rock Breaking. Blasting Rock. Transportation and Hoisting. Mine Drainage. Ventilation and Illumination. Support of Mine Workings. Open-pit Mining. Alluvial Mining Development. Underground Methods. Mine Organization and Operation. Mine Accounting. Accidents and Miners' Diseases. Examination of Mineral Deposits.

STALEY—Mine Plant Design

By W. W. STALEY, University of Idaho. Second Edition.

540 *pp.*, 6 *x* 9, 193 *illus.* (1949)....$12.50*c*

Contains a practical discussion of the methods and procedure for selecting and designing mine plant equipment and simple structures, covering surface and underground equipment and buildings. In the second edition, material has been added on design principles, ore bins, skips and gages, and safety catches. The chapter on handling of water presents a new section on airlifts, and information on the use of Diesel locomotives underground has been included in the chapter on mine haulage. The number of illustrations has been greatly increased.

CONTENTS—Graphical Solution of Simple Beams and Roof Trusses. Review of Simple Design Principles, Roof Trusses, Columns, and Footings. Headframes. Ore Bins. Skips and Cages. Safety Catches. Mine Hoists. Handling of Water for Mining Purposes. Compressed Air. Mine Haulage. Power Plant. Mine Ventilation. Index.

SHEPARD AND DIETRICH—Fire Assaying

By ORSON C. SHEPARD, Stanford University, and WALDEMAR J. DIETRICH, Sacramento Junior College.

277 *pp.*, 6 *x* 9, *illus.* (1940).....$7.00*c*

Provides a working knowledge of the practice of fire assaying without the need for a comprehensive understanding of the physicochemical principles involved. Shows how to apply scientific principles in such matters as crucible charge calculations, cupellation and scorification procedures. Presents workable procedures for the determination of gold and silver in almost any type of natural or artificial material; for the determination of the individual members of the platinum group; and for some base metals.

CONTENTS—The Scope of Fire Assaying. Sampling. Weighing. Cupellation. Parting. Theoretical Discussion of Assay Fusions and Related Smelting Processes. The Crucible Assay. The Scorification Assay. The Assay of Bullion for Gold and Silver. The Assay of Materials Requiring Preliminary Acid Treatment. Assay of Solutions for Gold and Silver. The Fire Assay for the Platinum Metals. Fire Assay Methods for Base Metals. The Accuracy of the Fire Assay for Gold and Silver. The Preparation of Gold and Silver Bullion from Amalgam and Cyanide Precipitate. Assay Equipment and Supplies. Appendix A. Minimum Equipment for a Small Assay Office. Appendix B. List of Assay Supplies and Reagents. Appendix C. Assay Supply Houses. Index.

HOOVER—Principles of Mining

Valuation—Organization—Administration

By HERBERT C. HOOVER.

199 *pp.*, 6 *x* 9, *illus.* (1909).....$6.00*c*

CONTENTS—Valuation of Copper, Gold, Lead, Silver, Tin, and Zinc Lode Mines. Mine Valuation. Development of Mines. Stoping. Methods of Supporting Excavation. Mechanical Equipment. Ratio of Output to the Mine. Administration. Amount of Risk in Mining Investments.

Prospecting

VON BERNEWITZ—Handbook for Prospectors

By W. M. VON BERNEWITZ. Revised by H. C. CHELLSON, *Engineering and Mining Journal* and *Coal Age*. Fourth Edition.

540 *pp.*, 5 *x* 7¼; 161 *illus.* (1943)..$11.50*hb*

A guide book for prospectors, giving sound practical information on equipment, methods of procedure, and laws pertaining to mining. The book also presents those principles of mineralogy and geology which are of greatest practical aid in prospecting. There is a useful glossary of terms used in mining.

CONTENTS—Aid to Prospectors. Tents, Clothing, Water, Food, and Utensils. Methods of Transportation. Health and First Aid. Laws Pertaining to Mining Mineralogy. Elementary Geology. Geology in Prospecting. Occurrence of Ores. Outcrops. Prospecting. What Minerals to Look for and Where. Sampling. Field Tests. Developing and Equipping a Prospect. Markets and Prices. Metallic Minerals. Non-metallic Minerals. Glossary of Terms Used in Mining.

Petroleum

AMYX, BASS, AND WHITING—Petroleum Reservoir Engineering
Physical Properties
By JAMES W. AMYX, DANIEL M. BASS, JR., Colorado School of Mines, and ROBERT L. WHITING, A & M College of Texas.
610 *pp.*, 5¾ *x* 8⅞, *tables* (1960)....$17.50*c*
The first volume of a two-volume, advanced-undergraduate work on Reservoir Engineering, this book develops the fundamental concepts of rock and fluid properties on which reservoir engineering is based. Procedures are presented for reduction and organization of reservoir rock, fluid and production measurements for use in reservoir engineering studies. Three chapters each are devoted to measurement and analysis of rock properties and of fluid properties. Two chapters are devoted to the organization of data for use in volumetric and material balance equations for determination of the value of oil in place. Examples and work charts are conveniently placed to facilitate application; emphasis is on up-to-date problems of Reservoir Engineering.
CONTENTS—Preface. Introduction. Fundamental Properties of Fluid Permeated Rocks. Properties of Porous Media Containing Multiple Fluid Saturations. Fundamentals of the Behavior of Hydrocarbon Fluids. Determination and Application of Reservoir Fluid Properties. Properties of Water. Data Evaluation for Reservoir Calculations. The Material Balance. Author Index. Subject Index.

BELL—Petroleum Transportation Handbook
Edited by H. S. BELL, Consulting Engineer. Prepared by a Staff of Specialists.
510 *pp.*, 6 *x* 9, 174 *illus.* (1963)...$18.50*hb*
For the managerial and technical staffs of industries using or producing petroleum. Describes and evaluates the chief means—pipeline, rail, water, and highway—of moving petroleum and its products from oilfield to refinery to market, with special attention to characteristic problems. Also explores such related topics as storage tanks, loading facilities, fire prevention, and corrosion control.
CONTENTS—Crude-oil and Refined-product Pipelines. Pipeline Construction. Submarine Pipeline Construction. Aerial Surveys. Design of Gas Pipelines. Plastics in Petroleum Transportation. Pipeline Automation. Pipeline Corrosion—Internal, External. Marine Transportation. Inland Waterways. Marine Terminals. Oil Docks and Anchorages. Harbor Transportation. Highway Transportation. Rail Transportation. Reference Section.

DAVIDSON—Successful Process Plant Practices
Operation, Maintenance, and Safety
By ROBERT DAVIDSON, *Petroleum Week.*
302 *pp.*, 6 *x* 9, 276 *illus.* (1958)....$10.00*i*
A how-to-do-it manual of process plant problems and how they have been solved in actual practice. Practical methods and devices are described and illustrated, for dealing with many different problems in managing, scheduling, operating, maintaining, repairing, etc., in all the process industries. The book is based on popular articles that appeared in *Petroleum Processing*, here edited for quick, easy reading and classified and indexed for handy reference.
CONTENTS—I. MANAGING THE JOB. Personnel Training and Relations. Communications and Transportation. Safety Programs and Methods. Schedules and Records. II. MAINTAINING THE EQUIPMENT. Cleaning Equipment. Dismantling Equipment. Fabricating Equipment and Parts. Handling Materials and Tools. Improving Equipment. Installing Equipment. Machining Techniques. Repairing Equipment (General). Repairing Equipment (Onstream). Shop and Field Welding. III. HANDLING PROCESSES AND PRODUCTS. Instruments and Their Care. Operating Hints. Process Controls. Process Equipment. Product Handling. Sampling. IV. PROTECTING EQUIPMENT. Insulating Equipment. Preventing Corrosion. Testing and Inspecting. V. GENERAL EQUIPMENT. Scaffolds and Rigs. Shop and Field Equipment.

FRICK—Petroleum Production Handbook
Volumes I, II
Editor-in-Chief, THOMAS C. FRICK, Atlantic Refining Company. Prepared by a Staff of Experts.
1872 *pp.*, 6 *x* 9, *illus.* 2 *volumes, not for sale separately* (1962).....$39.50*hb*
Over sixty experts provide authoritative answers to questions concerning the recovery of oil and gas. The overall petroleum producing operation, from the point where the well is completed, to the time the oil is readied to be transported for processing is thoroughly covered. The book is divided into three main sections: mathematics; production engineering and equipment; and reservoir engineering. Each chapter, prepared by an expert in his respective field, provides vital technical data covering such topics as casing, tubing, line pipe, well head equipment, pumps, storage tanks, measuring, sampling and testing, gas properties, oil system correlations, phase diagrams, reservoir traps, hydraulics, valuation of oil and gas properties, electrical logging, well stimulation, and more. The handbook includes charts, graphs, and information that have never been previously published. A practical working-tool, the handbook is an authoritative guide to the selection of well and lease equipment, the planning of a field, planning a secondary recovery program, and in general to all questions dealing with reservoir problems, including evaluation and appraisal.
CONTENTS—Section I. Mathematics. Mathematical Tables and Weights and Measures. Section II. Production Equipment. Casing, Tubing, and Line Pipe. Well-head Equipment and Flow-control Devices. Production Packers. Gas Lift. Hydraulic Pumps. Subsurface Sucker-rod Pumps. Sucker Rods. Pumping Units and Prime Movers for Pumping Units. Oil Storage. Oil and Gas Separators. Gas Measurement and Regulation. Lease-operated Hydrocarbon-recovery Systems and Gas-treating Systems. Surface Facilities for Waterflooding and Saltwater Disposal. Automation of Lease Equipment. Measuring, Sampling, and Testing Crude Oil. Section III. Reservoir Engineering. Gas Properties and Correlations. Properties of Crude Oils and Liquefied Condensate. Oil-system Correlations. Phase Diagrams. Properties of Produced Waters. Hydrocarbon-water and Formation Water Correlations. Properties of Reservoir Rocks. Typical Core Analysis of Different Formations. Relative Permeability. Reservoir Traps. Bottom-hole Pressures. Temperatures in Wells. Potential Tests for Oil Wells. Open Flow of Gas Wells. Wellbore Hydraulics. Reservoir Performance Equations. Development Plan for Oil Reservoirs. Solution-gas-drive Oil Reservoirs. Water-drive Oil Reservoirs. Gas-condensate Reservoirs. Estimation of Primary Oil and Gas Reserves. Valuation of Oil and Gas Reserves. Injection Operations. Gas-injection Pressure Maintenance and Miscible-phase Displacement in Oil Reservoirs. Water-injection Pressure Maintenance and Waterflood Processes. Standard Letter Symbols for Petroleum Reservoir Engineering and Electric Logging. Electrical Logging. Radioactivity Well Logging. Miscellaneous Well Logs. Acidizing. Formation Fracturing. Remedial Clean-up and Other Stimulation Treatments. Oil and Gas Leases. Index.

GRUSE AND STEVENS—Chemical Technology of Petroleum
By WILLIAM A. GRUSE, formerly Mellon Institute; and DONALD R. STEVENS, Mellon Institute. Third Edition.
675 *pp.*, 6 *x* 9, 62 *illus.* (1960).....$15.00*r*

Presents a chemical discussion of the properties, refining, and utilization of petroleum. Included are chapters on thermodynamics as applied to the problems of hydrocarbon chemistry and production chemistry, as well as material on distillation, physical properties, motor fuels, lubricants, cracking, crude oils, and refining of oil stocks. Third Edition reflects the adoption of catalytic methods and the wide development of synthesis since the end of World War II. CONTENTS—Production, Classification, and Description of Crude Oils. Composition of Petroleum and Petroleum Products. Chemical Reactions and Group Reactions. Physical Properties. Origin of Petroleum. Distillation. Refining by Chemical Methods. Refining by Physical Methods. Cracking of Petroleum Oils. Chemical Thermodynamics of Petroleum Hydrocarbons. Gasoline and Other Motor Fuels. Kerosene, Absorbent Oils, and Fuel Oils. Lubrication and Lubricants. Petroleum Waxes. Petroleum Asphalts. Miscellaneous Petroleum Products and Derived Products.

GUTHRIE—Petroleum Products Handbook

By VIRGIL GUTHRIE, formerly *National Petroleum News*, and *Petroleum Processing*. Prepared by a Staff of Experts.

864 *pp.*, 6 *x* 9, 217 *illus.*, 242 *tables* (1960) $18.50*hb*

Gives information and data to aid in best selection, handling, and use of commercial petroleum and natural gas products. Covers liquified petroleum gas, gasoline, aircraft fuels, diesel fuel oils, residual fuel oils, greases, waxes, petrochemicals, asphalt, and coke. For each product, the handbook treats manufacture, properties which determine performance value and test methods for their determination, various fields of utilization, and methods of storage, handling, and transportation. CONTENTS—The Raw Material, Crude Petroleum, and Natural Gas. Additives for Petroleum Products. Liquefied Petroleum Gas. Gasoline. Aircraft Gas Turbine Fuels and Lubricants. Diesel Fuel Oils. Distillate Heating Oils. Residual Fuel Oils. Lubricating Oils and Greases. The Petroleum Waxes. Miscellaneous Light Oils. Petrochemicals. Petroleum Asphalt. Petroleum Coke. Carbon Black. Reference Data Section. Petroleum Trade Glossary.

HENGSTEBECK—Petroleum Processing

Principles and Applications

By R. J. HENGSTEBECK, Standard Oil Company (Indiana).

340 *pp.*, 6 *x* 9, 146 *illus.*, 84 *tables* (1959) $11.75*i*

A reference guide to the practical aspects of petroleum refining processes, describing each major refining operation and discussing the factors and methods important to it. Subjects covered include products and raw materials, general operations, separation processes, moving beds and fluidized beds of solids, pyrolysis, catalytic cracking, catalytic reforming, alkylation and polymerization, isomerization, lube oil, wax and asphalt processes, hydrogenation, acid, clay and hydrogen treating, and sweetening and mercaptan extraction.

HUNTINGTON—Natural Gas and Natural Gasoline

By R. L. HUNTINGTON, University of Oklahoma. *Series in Chem. Engg.*

598 *pp.*, 6 *x* 9, 290 *illus.* (1950) $15.00*r*

Gives a general idea of the natural gas and gasoline branches of the petroleum industry, and supplies the process and equipment designer with some of the practical "know how" gained by the author and his sources through years of actual field and plant experience. CONTENTS—Introduction. Estimation of Gas and Gasoline Reserves. Elements of Plant Location and Design. Gathering of Raw Gas and Return of Residue Gas. Determination of Cycling Efficiencies in the Cotton Valley (Louisiana) Gas-condensate Reservoir. Elements of Natural-gasoline Processing. Absorption. Distillation and Fractionation. Gas Dehydration. Storage and Transportation. High-pressure Pipeline Research. Appendixes: A. Physical Properties of Hydrocarbons. B. Official Specifications and Testing Methods for Natural Gasoline. C. Casinghead Gas Contract. D. A.G.A.N.G.A.A. Standard Compression and Charcoal Tests for Determining the Natural Gasoline Content of Natural Gas. E. N.G.A.A. Recommended Procedure for Analysis of Saturated Hydrocarbon Gases by Low Temperature Fractional Distillation. F. Perco Copper-sweetening Process for Treatment of "Sour" Gasoline. Index.

MOODY—Petroleum Exploration Handbook

A Practical Manual Summarizing the Application of Earth Sciences to Petroleum Exploration

By GRAHAM B. MOODY, Petroleum Consultant. Prepared by a Staff of Experts.

860 *pp.*, 6 *x* 9, 328 *illus.* (1961) $23.50*hb*

Presents in condensed form all pertinent data relating to oil exploratory operations. Brings together in logical order such topics as field geology, subsurface geology, geophysics, reservoir mechanics, as well as specific methods and problems of exploring and finding petroleum. Covers the entire field of petroleum exploration—starting with the philosophy of exploration; through organization of exploration personnel; the fundamentals of origin, collection and entrapment of oil; to active field examinations, interpretation of results and the report; drilling the exploratory well and estimating the reserves discovered; and a description of laboratory procedures and the role of research in exploration. CONTENTS—Philosophy of Exploration. Purpose and Obligation of Exploration. Exploration Personnel. Probability of Success in Exploration. Origin, Migration, and Occurrence of Petroleum. Entrapment of Petroleum. Petroleum Reservoirs. Planning Exploration Project. Photogeology. Surface Geology. Geophysical Surveys. Geochemical Surveys. Subsurface Geology. Economic Analysis of Exploratory Project. Geological Report. Leases. Concessions. Permits. Options. Drilling the Exploratory Well. Coring. Logging the Well. Laboratory Procedures in Exploration. Exploration Research. Exploration Scouting. Estimation of Petroleum Reserves Discovered.

NELSON—Petroleum Refinery Engineering

By W. L. NELSON, University of Tulsa. *Series in Chem. Engg.* Fourth Edition.

960 *pp.*, 6 *x* 9, 341 *illus.* (1958) $17.00*r*

This volume is both a basic college text in petroleum refinery engineering, and a handbook of refinery engineering technology for practicing engineers and industrial technologists. In addition to its value for petroleum students and engineers, the book supplies chemical engineers with specific and detailed information about the petroleum industry. International interest is being recognized in this fourth edition by the introduction of more information on foreign crude oils and more complete information on the evaluation of oils. A new appendix introduces the analyses of over 70 foreign crude oils as well as about 90 representative U.S. oils for comparison. CONTENTS—Preface to the Fourth Edition. History and Development of Refining. Composition of Petroleum Refinery Products and Test Methods. Evaluation of Oil Stocks. Physical Properties of Petroleum Oil. Introduction to Processing. Refinery and Distillation Processes. Auxiliary Processes and Operations. Refinery Corrosion and Metals. Chemical Treatments. Solvent Treating or Extraction Processes. Dewaxing. Fluid Mechanics. Combustion. Vaporization and Condensation. Fractionation and Towers. Heat Transfer and Exchangers. Tubestill Heaters. Thermal Cracking and Decomposition Processes. Rebuilding Hydrocarbons. Catalytic Cracking and Reforming. Natural and Refinery Gases. Economics of Design. Typical Design Calculation. Appendix A—Densities and Specific Volumes of Oils. Appendix B—Crude-oil Analyses. Subject Index.

NIND—Principles of Oil Well Production
By T. E. W. NIND, Univ. of Saskatchewan.
384 *pp.*, 6 *x* 9, 260 *illus.* (1963) $12.50*r*
Outlines the principles behind oil well production techniques and applies these principles in optimizing profits and production to each particular well. Whereas most current texts are essentially descriptive, of both the equipment and the methods used in petroleum production engineering, this text uses a deductive, analytic approach wherever possible, and seeks to develop an understanding of oil well performance in terms of formation and fluid properties and behavior.
CONTENTS—Reservoir Engineering Fundamentals. The Performance of Productive Formations. Flowing-well Performance (I) (II) (III). Heading and Intermitters. The Principles of Gas Lift. Gas-lift Valves and String Design. Plunger Lift and Chamber Lift. Sucker-rod Pumping. Pumping-well Instruments. Production Economics. Problems.

PIRSON—Oil Reservoir Engineering
By SYLVAIN J. PIRSON, University of Texas.
Second Edition.
735 *pp.*, 6 *x* 9, 450 *illus.* (1958) $17.00*c*
This text presents clearly and concisely the fundamental principles by which oil is recovered from naturally occurring reservoir rocks and geological structures of all kinds. The emphasis is on principles rather than practices, methodology rather than methods, and rationality rather than rules of thumb. Due to the tremendous recent advances made in the understanding of oil recovery processes, only about one third of the material that appeared in the previous edition is used in this revision. This second edition contains twice as many illustrations as its predecessor and about 50 illustrative problems of various length with detailed solutions.
CONTENTS—Preface. Introduction. Reservoir Rocks and Structures. Physical Properties of Reservoir Rocks. Petrophysics. Electric and Radiation Well Logging. Quantitative Evaluation of Well Logs. Reservoir Fluid Properties. Reservoir Forces and Energies. Volumetric Evaluation of Oil in Place and Empirical Reserve Estimates. Mechanics of Fluid Flow in Porous Media. Oil Production by Depletion Drive. Theory of Oil Production by Frontal Displacement. Oil Production by Water Drive. Oil Production by Segregation Drive. A Universal Theory of Reservoir Engineering. Abbreviations and Symbols. Index.

PURDY—Petroleum
Prehistoric to Petrochemicals
By G. A. PURDY, Imperial Oil Ltd.
492 *pp.*, 7 *x* 9, *illus.* (1958) $16.00*i**
The complete story of petroleum, from its geological and archaeological beginnings to such present-day products as asphalt pavement and hair curlers. Using hundreds of pictures and drawings, the book describes the nature of petroleum; how it is found, produced, and transported; the processes used to convert it into petrochemicals and other products; and finally the products themselves and their uses. Also covered are the occurrence of petroleum; searching; drilling; production; gases and solvents; fuels; lubricants; refining by distillation; and gasolines.
CONTENTS—The Importance of Petroleum. History of Petroleum. Nature of Petroleum. The Occurrence of Petroleum. Searching for Petroleum. Drilling for Petroleum. Production of Petroleum. Transportation of Petroleum. Petroleum Refining—Distillation. Gasolines. Treating. Lubricating Oils, Waxes, and Greases. Solvents, Fuel Oils, and Asphalts. Product Control. Gases and Solvents. Fuels. Lubricants, Waxes, and Asphalts. Petrochemicals.
* *Not available for sale in Canada.*

UREN—Petroleum Production Engineering
Oil Field Development
By LESTER C. UREN, University of California, Berkeley. Fourth Edition.
792 *pp.*, 6 *x* 9, *illus.* (1956) $16.50*iL*
Gives a practical treatment of every phase of petroleum production engineering up to the point at which the wells are ready to produce. It introduces the fundamentals of field location and covers thoroughly the problems, methods and equipment of oil-field development and modern deep-well drilling.
CONTENTS—Properties and Occurrence of Petroleum in Nature. Principles of Oil-field Development. Drilling Equipment and Methods: General Features. Drilling Equipment: Supporting Structures. Churn-drilling Equipment and Methods. Rotary Drilling: Power Development and Transmission. Rotary-drilling Equipment. Rotary Drilling: The Circulating System and Its Control. Rotary-drilling Practices. Rotary Drilling: Special Methods and Equipment. Casing. Casing Design. Casing Methods, and Casing Appliances. Exclusion of Water from Wells. Fishing Tools and Methods. Well-logging Methods and Records. Well-surveying Methods: Maps and Records. Well Records: Inspection of Formation Samples. Well-completion Methods.

UREN—Petroleum Production Engineering
Oil Field Exploitation
By LESTER C. UREN, University of California, Berkeley. Third Edition.
807 *pp.*, 6 *x* 9, 367 *illus.* (1953) . . . $14.75*iL*
Concerned with the technology and engineering problems involved in extracting petroleum and natural gas from nature's reservoirs, and with the handling and processing of them after they reach the surface.
CONTENTS—The Oil and Gas Reservoir. Principles Governing Drainage: Reservoir Performance. Production Characteristics of Oil and Gas Wells. Flowing Wells and Their Control. Pneumatic Lifting of Oil from Wells. Mechanical Devices for Lifting Oil from Wells. Power Development and Application in Oil-well Pumping. Management of Wells to Secure Maximum Recovery. Secondary Recovery: Vacuum and Gas-injection Methods Secondary Recovery: Water-flooding and Mining Methods. Field Processing of Oil and Gas. Gathering, Local Storage, and Shipping of Petroleum: Gauging, Sampling, and Testing of Oil and Gas. Storage of Petroleum. Transportation of Oil and Gas. Auxiliary Plants and Departments. Name Index. Subject Index.

UREN—Petroleum Production Engineering
Petroleum Production Economics
By LESTER C. UREN, University of California, Berkeley.
639 *pp.*, 6 *x* 9, 117 *illus.* (1950) $12.50*iL*
The engineer engaged in the petroleum producing industry must have both a technologic and economic outlook. To this end, the book gives an elementary exposition and interpretation of the basic principles of economics and business administration as they apply specifically to the industry.
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OIL PRODUCER'S LIBRARY $32.50*r*
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Prepared by a staff of specialists. ARCHER E. KNOWLTON, Editor-in-Chief. Ninth Edition. 2230 *pp.*, 6 x 9, 1725 *illus.* (1957).....$24.00*hb*

The great standard reference work of all in the electrical engineering profession or whose work in industry or engineering touches on this field. Presents a handy-reference compilation of practical usable data from all fields of electrical engineering practice, plus the most frequently required fundamental theory, units, and systems of measurement, made dependable by the work of more than 100 engineers, scientists, teachers, and other authorities.

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Introductory and General

BOOKER—An Approach to Electrical Science

By HENRY G. BOOKER, Cornell University.

826 *pp.*, 6 *x* 9, 502 *illus.* (1959)....$9.95*c*

This integrated approach to the fundamentals of electrical science provides a thorough and careful treatment of the topics usually covered in the elementary physics course in electricity and magnetism, plus those in the elementary electrical engineering courses in circuits and fields. It combines many of the strong points of the physics and engineering treatments, and it ensures a unity of perspective which is less likely to prevail in the split physics and engineering treatment. The book presents the theoretical basis of electrical science, using for each topic what the author regards as the "best" approach, regardless of whether this is an engineering approach, a physics approach, or a mathematics approach.

CONTENTS—Preface. ELECTRIC FIELDS AND CIRCUITS IN ELECTROSTATICS. Electric Field of Point Charges. Potential Energy and Electric Potential. Electric Flux. Capacitance. Networks of Capacitors. Coefficients of Capacitance and Elastance for a Network of Capacitors. Use of Equivalent Networks. Electric Energy. Coefficients of Capacitance and Elastance for Any System of Conductors. Forces Exerted on Charged Conductors. Electrostatics of Transmission Lines. STEADY ELECTRIC CURRENTS AND VACUUM TUBES. Conductance and Resistance. Networks of Resistors. Coefficients of Conductance and Resistance for Networks of Resistors. Use of Equivalent Networks. Resistance between Electrodes Embedded in Resistive Material. The Diode Vacuum Tube. Multielectrode Vacuum Tubes. MAGNETIC FIELDS AND CIRCUITS. The Effect of Electric Charge on Inertia. Magnetic Flux. Magnetic Field Strength. Fundamental Properties of Magnetic Fields. Inductance of Electric Circuits. Forces of Magnetic Origin. Magnetic Scalar Potential. Ferromagnetic Circuits. Transformers. Magnetic Vector Potential. RELATIONS BETWEEN ELECTRIC AND MAGNETIC FIELDS. Flow of Energy in an Electromagnetic Field. Displacement Current. Magnetically Induced Voltage. Faraday's Law of Induction. Inertia and Momentum of an Electric Circuit. Networks of Inductors. The Electrical Form of Kinetic Energy. Magnetic Energy of a System of Inductors. The Relation between Force and Energy in a Magnetic Field. Flow of Energy into and Out of Inductors. Table of Numerical Values. Problems. Index.

FITZGERALD AND HIGGINBOTHAM—Fundamentals of Electrical and Electronic Engineering

By A. E. FITZGERALD, Northeastern University and DAVID E. HIGGINBOTHAM, Tufts Univ.

In Press

This basic text covers electrical and electronic engineering in one volume at the engineering technician level. It considers today's need for a wider range of training, including applications, rather than simply specializing in a narrow field. The first part, circuits, provides a background for dealing with all electrical engineering problems. The second and third parts, electronics and machines, can be taken up independently or used interchangeably. The fourth part, control and instrumentation, provides an excellent introduction to the systems viewpoint and serves to coordinate the earlier considerations within a single engineering framework.

CONTENTS—ELECTRIC CIRCUITS. D-C Circuits. Alternating Voltages and Currents. Phasor Representation and Complex Algebra. A-c Network Theory. Single-phase and Polyphase Circuits. Electric Transients. ELECTRONIC DEVICES AND CIRCUITRY. An Introduction to Electronics. Vacuum-tube Circuits. Transistor Circuits. Selected Electronic Devices. ELECTROMAGNETIC DEVICES AND MACHINERY. Magnetic Circuits. Transformers and Coupled Magnetic Circuits. Electric Machinery Principles. Electric Machinery Characteristics. CONTROL AND INSTRUMENTATION Control of Electric Machines. Instrumentation. Feedback Control Systems. Analysis of Linear Feedback Control Systems.

LYNCH AND TRUXAL—Introductory System Analysis

Signals and Systems in Electrical Engineering

By WILLIAM A. LYNCH and JOHN T. TRUXAL, both Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series.*

450 *pp.*, 6 *x* 9, *illus.* (1961).....$7.50*c*

Presents the fundamental concepts and techniques of modern electrical engineering by introducing the viewpoints, approaches, and methods of the electrical engineer. It familiarizes the reader with electrical devices and equipment, provides the requisite foundation for future study, and presents a definitive picture of the role of the electrical engineer in the modern interdisciplinary systems engineering efforts, both military and industrial.

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LYNCH AND TRUXAL—Signals and Systems in Electrical Engineering

By WILLIAM A. LYNCH and JOHN G. TRUXAL, both of the Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series. Brooklyn Polytechnic Institute Series.*

864 *pp.*, 6 *x* 9, 666 *illus.* (1962)....$12.50*c*

This book combines the material from the two separate volumes by the same authors, INTRODUCTORY SYSTEM ANALYSIS AND PRINCIPLES OF ELECTRONIC INSTRUMENTATION. It presents the fundamental concepts underlying the subjects of linear system analysis and instrumentation. In the first half of the book, the student is introduced to the viewpoints, approaches, and methods of the electrical engineer, with the objectives of providing the basis for subsequent learning. It also familiarizes the student with electrical devices and equipment of importance in all branches of science and engineering. The material is introduced at an elementary level, as a preparation for the study in the last half of the book, in which specific engineering problems are drawn from such areas as: analog simulation and computation, electronic instrumentation, communications, automatic control, electric machinery, and vehicle guidance and control.

CONTENTS—Preface. INTRODUCTORY SYSTEM ANALYSIS. The Language of Signals and Systems. Signals. Models for Mechanical Systems. Electrical Systems. The Response of Simple Electric Circuits. The Transfer Function. The Elements of Analog Simulation and Analog Computers. Summary Illustrative Examples. PRINCIPLES OF ELECTRONIC INSTRUMENTATION. Networks with Controlled Sources. Determination Models for Physical Devices. Electronic Amplifiers. Feedback Systems. Instrumentation Systems and Communication. Electromechanical Transduction Systems. Systems for Automatic Navigation. Index.

MUELLER—Introduction to Electrical Engineering

By GEORGE V. MUELLER, Robbins and Myers, Inc., Springfield, Ohio. Third Edition.

466 *pp.*, 6 *x* 9, 439 *illus.* (1957).....$9.50*c*

Presents the fundamental principles of electric and magnetic circuits and fields. It begins with a treatment of the laws and theorems applicable to d-c circuits having constant resistances. Next, the resistivities of various materials are considered, and the author shows how these are affected by temperature changes. Then nonlinear resistive elements are discussed. This material serves not only to show the applications of the elements, but also to introduce analogous principles involved in electronic tubes and magnetic circuits. The concluding chapters consider transients in inductive and capacitive circuits and the principles of magnetic and electric fields.

CONTENTS—Abbreviations and Symbols. Graphical Symbols. Some Fundamental Ideas about Electricity. Application of Ohm's Law and Kirchhoff's Laws. Further Applications of Ohm's and Kirchhoff's Laws. Properties of Conductors and Insulators. Nonlinear Resistance Circuits. Electronics. Magnetic Circuits. Magnetically Induced Electromotive Forces. Dielectric Circuits. Magnetic Fields. Electric Fields. Electrochemistry. Index.

NANAVATI—Introduction to Semiconductor Electronics

By RAJENDRA NANAVATI, Syracuse University.

422 *pp.*, 6 *x* 9, 170 *illus.* (1963)..$12.50*c*

This book is written for the graduate level and/or senior elective course, as well as for the practicing engineer in the semiconductor industry. Its chief purpose is to apply the combination of device theory and circuit theory to the proper understanding of the internal behavior of semiconductor devices and their performance when used in circuits. Throughout the book an attempt is made to clearly state the assumptions behind each theoretical derivation, and to point out the limitation of the existing theories.

BLALOCK—Principles of Electrical Engineering

By GROVER C. BLALOCK, Purdue University. Third Edition.

605 *pp.*, 6 *x* 9, *illus.* (1950).....$9.50*c*

Fundamental principles are presented in concise form with frequent references to practical application, and illustrative examples are used freely. There is a chapter on electrical instruments and another on the testing of electrical machinery.

CONTENTS—Electric Currents and Circuits. Fundamental Units, Rates, Efficiency. The Direct-current Electric Circuit. Magnetism and the Magnetic Circuit. Electromagnetic Induction. Dielectric Fields and Circuits. Dynamo Design and Construction Features. Direct-current Generators. Direct-current Motors. Losses, Efficiencies. Heating, and Ratings. Batteries. Direct-current Applications. Alternating Voltages and Currents. Sine Wave and Vector Relations. The Alternating-current Circuit. Single-phase Voltages and Circuits. Polyphase Voltages and Circuits. The Transformer. Polyphase Induction Motors. Single-phase Motors. Alternating-current Generators. The Synchronous Motor. Alternating-current Transmission, Distribution, and Application. Rotating Conversion Apparatus. Illumination. Electronics. Electrical Measurements. Installation, Operation, and Maintenance. The Testing of Electrical Machinery. Appendix. Index.

CLEMENT AND JOHNSON—Electrical Engineering Science

By PRESTON R. CLEMENT and WALTER C. JOHNSON, Professors of Electrical Engineering, Princeton University. *Elec. & Electron. Engg. Series.*

588 *pp.*, 6 *x* 9, 768 *illus.* (1960).....$9.95*c*

The aims of this book are to provide an introduction to the field of electrical engineering via the basic concepts of electricity and magnetism, to apply these concepts in developing the fundamentals of energy conversion and circuit theory, and to carry forward, in a continuous and integrated way, a modern treatment of network analysis. Some outstanding features of the book are its emphasis of the relation between the physical system and its mathematical model, consideration of nonlinear as well as linear systems, a new and highly useful treatment of high-Q circuits, and a basic and practical treatment of the transformer.

CONTENTS—Preface. Electrical Forces and Fields. Conductors and Semiconductors. Magnetism and Electrodynamics. The Foundations of Electric Circuit Theory. Principles of Energy Conversion. The Measurement of Electrical Quantities. Transients in Simple Circuits. Introduction to Driven Circuits. Network Topology and Network Equations. The Use of Phasors with Sinusoidal Driving Functions. The Application of the Algebra of Complex Numbers to Phasor Methods. Reduction Techniques for Networks. Energy and Power Relationships. Frequency Characteristics, Transient Response, and Zero-pole Locations. The Characteristics of Some Important Circuits. Fourier Analysis of Nonsinusoidal Waves. The Transformer. Polyphase Systems. Appendix A. Conversion Factors. B. Table of Physical Constants. C. American Wire Gage Table. Index.

DAWES—A Course in Electrical Engineering

Volume I. Direct Currents

By CHESTER L. DAWES, Harvard University. Fourth Edition.

736 *pp.*, 6 *x* 9 (1952).....$9.50*c*

An outstanding text for the first course in electrical engineering. In conjunction with Volume II, it can be used for either electrical or non-electrical students. In the back of the book there are nearly eight hundred problems which illustrate the principles developed in the text.

CONTENTS—Resistance. Ohm's Law and the Electric Circuit. Battery Electromotive Forces—Kirchhoff's Laws. Primary and Secondary Batteries. Electrical Instruments and Electrical Measurements. Magnetism and Permanent Magnets. Electromagnetism. The Magnetic Circuit. Self- and Mutual Inductance. Electrostatics: Capacitance. The Generator. Generator Characteristics. The Motor. Losses; Efficiency; Operation. Transmission and Distribution of Power. Problems. Index.

DAWES—A Course in Electrical Engineering

Volume II. Alternating Currents

By CHESTER L. DAWES, Harvard University. Fourth Edition.

708 *pp.*, 6 *x* 9, 504 *illus.* (1947).....$9.50*c*

Emphasizes the development of the principles of alternating currents and alternating-current circuits from the simplest phenomena. It presupposes no knowledge of alternating currents, and is intended for nonelectrical as well as electrical engineering students. The scope of the properties of alternating-current circuits includes developments in series and parallel resonance, harmonics, power as related to circuit parameters, and conjugate methods of computing watts and vars, while thermal and rectifier types of voltmeters and ammeters and the cathode ray oscilloscope are also covered.

CONTENTS—Alternating Current and Voltage. Alternating-current Circuits. Complex Quantities. Alternating-current Instruments and Measurements. Polyphase Systems. The Alternator. Alternator Regulation and Operation. The Transformer. The Induction Motor. Single-phase Motors. The Synchronous Motor. The Synchronous Converter. Transmission of Power by Alternating Current. Electron Tubes. Rectifiers. Problems. Index.

FITZGERALD AND HIGGINBOTHAM—Basic Electrical Engineering

Circuits, Machines, Electronics, Control

By A. E. FITZGERALD, Jackson & Moreland, Inc., and DAVID E. HIGGINBOTHAM, Tufts University. *Elec. & Electron. Engg. Series.* Second Edition.

540 *pp.*, 6 *x* 9, 533 *illus.* (1957).....$9.50*c*

Places approximately equal emphasis on the four main subdivisions of Electrical Engineering: circuit theory, machinery, industrial electronics and measurements, and feedback-control systems. Starting with simple statements of the elementary electrical principles resulting from classical scientific experiments, this text presents fundamental methods of analysis which are of greatest importance in these fields. A large number of examples with complete solutions and a wide variety of tested problems are included.

CONTENTS—D-C Circuits. Alternating Currents and Voltages. Phasor Representation and Complex Algebra. A-C Circuits: Current-voltage Relations. A-C Circuits: Power and Frequency Response. Polyphase Circuits. Transients. Magnetic Circuits. Transformers. Physical Aspects of Electric Machinery. D-C Machines. Three-phase Induction Motors. Polyphase Synchronous Machines. Fractional-horsepower Motors. Physical Aspects of High-vacuum Tubes and Their Associated Circuits. High-vacuum Tubes as Circuit Elements. Vacuum-tube Amplifiers. Vacuum-tube Oscillators. Special-purpose Tubes and Semiconductor Devices. Control Amplifiers and Associated Equipment. Instrumentation. Feedback-control Systems. Appendix. Index.

FRANK—Electrical Measurement Analysis

By ERNEST FRANK, Dikewood Corporation, Albuquerque, New Mexico. *Elec. & Electron. Engg. Series.*

443 *pp.*, 6 *x* 9, 244 *illus.* (1959).....$9.95*c*

Develops in the student the attitudes and comprehension necessary for the analytical solution of problems arising in electrical measurements. Methods, concepts, and analysis techniques are emphasized, as well as the nature and theory of errors of measurement. Unusual in such a text is the detailed treatment of the square-wave response of galvanometers from both a steady-state and transient point of view.

CONTENTS—Preface. Introduction. Review of Linear Circuit Analysis. Galvanometers, Shunts, and D-C Meters. Galvanometer Dynamics. Errors of Measurements. Statistics and Errors. Combinations of Errors. Deflection Methods of Measurement. Null Methods of Measurement. Direct-Current Bridge Analysis. Waveforms and A-C Meters. Square-law Meter Movements. Alternating-current Bridge Analysis. Treatment of Data. Textbook References. Answers to Problems. Index.

GRAY AND WALLACE—Principles and Practice of Electrical Engineering

By ALEXANDER GRAY and G. A. WALLACE, Professor Emeritus, McGill University. Eighth Edition.

616 *pp.*, 6 *x* 9, 494 *illus.* (1962).....$9.50*c*

In the earlier editions of this text, circuit theory and machinery were rather woven together into a single pattern. In this edition, they have been completely separated, so that the instructor may take them up in whatever sequence he prefers. One-third of the book is devoted to electric and magnetic circuit theory; one-seventh to electronics, semi-conductors and magnetic amplifiers, and the balance to power equipment, transformers, and illumination.

CONTENTS—Preface. Basic Mechanical Units—MKS System. Matter and Electricity. Magnetism—Properties of a Magnetic Field. Electric Circuits and Resistance. Conversion of Energy—Work and Power. Magnetic Circuits and Magnetic Properties of Iron. Mutual Induction and Self-induction. Direct-current Energy-conversion Machine. Construction and Excitation of Direct-current Machines. Theory of Commutation. Armature Reaction. Characteristics of Direct-current Generators. Theory of Operation of Direct-current Motors. Characteristics of Direct-current Motors. Losses, Efficiency, and Heating. Direct-current-motor Starters and Controllers. Amplidyne, Rototrol, and Regulex. Primary and Storage Batteries. Direct-current Transmission and Distribution. Alternating Voltages and Currents. Representation of Alternating Currents and Voltages. Alternating-current Circuits. Complex Numbers and Circuit Analysis. Polyphase Circuits. Transformers. Transformer Connections. Polyphase Induction Motors. Alternating-current Generators. Polyphase Synchronous Motors and Parallel Operation of Alternating-current Generators. Polyphase-motor Applications and Control. Single-phase Motors. Alternating-current Transmission and Distribution. High-vacuum Thermionic Tubes. Vacuum-tube Amplifiers and Oscillators. Semiconductors. Junction Rectifiers, Transistors. Gas-filled Tubes and Special Tubes. Power Rectification. Saturable Reactors and Magnetic Amplifiers. Electric Lighting. Laboratory Experiments. Appendix. List of Visual Aids. Index.

HAMMOND—Electrical Engineering

By SEYMOUR B. HAMMOND, University of Utah. *Elec. & Electron. Engg. Series.*

(1961) $9.50*c*

Based on the traditional circuits approach, the book differs from its contemporaries in its coverage and emphasis, incorporating an analytical rather than a practical flavor. It is as much concerned with transient concepts as with steady-state concepts; with electrical science, rather than practice. It covers a wide range of engineering topics, including analog and digital computers, transistors, feedback control systems, and piece-wise linear analysis.

CONTENTS—Preface. First Principles. Characteristics of Voltages and Currents. Natural Response. Series Electric Circuits in the Steady State. Complete Solutions of Series Circuits. Parallel and Series-Parallel Circuits. Electric Networks. Nonlinear Resistive Circuits. Electron Physics. Electronic Devices. Linear Operation. Nonlinear Operation. Feedback Circuits. Electronic Analog Computers. Digital Computers. Magnetic Fields and Circuits. Generation of Voltages. Electromagnetic Forces and Torque. Linear Approximations to Machine Analysis. Control Systems. APPENDIX 1: Characteristics of Vacuum Tubes and Transistors. APPENDIX 2: Electric Indication Instruments. APPENDIX 3: Letter Symbols Used in the Text.

LAWS—Electrical Measurements

By FRANK A. LAWS. *Electrical Engineering Texts.* Second Edition.

739 *pp.*, 6 *x* 9, 476 *illus.* (1938)....$11.75*c*

Designed to give a sound knowledge of the process of electrical measurement and to prepare the student for work in the dynamo laboratory and for the problems of electrical testing which he will encounter in practice.

CONTENTS—The Measurement of Current. The Ballistic Galvanometer. Resistance Devices. The Measurement of Resistance. The Measurement of Potential Difference and Electromotive Force. The Measurement of Power. Measurement of Inductance and Capacitance. Electricity Meters. Phase Meters. Power-factor Indicators. Synchroscopes. Frequency Meters. Reactive Meters. Volt-ampere Meters. Sequence Indication. Measurement of Sequence Components. Effects of Unbalance. Graphic Recording or Curve-drawing Instruments. Instrument Transformers. The Calibration of Instruments. Determination of Wave Form. Cable Testing.

LOEW AND BERGSETH—Direct and Alternating Currents

Theory and Machinery

By E. A. LOEW, Emeritus, University of Washington, and F. R. BERGSETH, University of Washington. Fourth Edition.

637 *pp.*, 6 *x* 9, 520 *illus.* (1954).....$9.50*c*

Here is a complete and teachable single-volume coverage of the circuit theory and machinery of both direct and alternating currents. Each section covers first the fundamental concepts and then goes on to a discussion of machinery and operating characteristics.

CONTENTS—Part I. DIRECT CURRENTS. Current, Electromotive Force, and Resistance. Resistance and Conductance. The Electric Circuits Computation of Resistance. Energy and Power. Magnetism and the Magnetic Field. Electromagnetism. Generated and Induced Voltages. The Magnetic Circuit—Magnetic Properties of Iron and Steel. Direct-current Ammeters and Voltmeters. The Electrical Field Capacitance. The Dynamo-electrical Machine Principles of Operation, Armature Winding, Construction, and Excitation. Armature-reaction and Commutation Operating Characteristics of Generators. Motors and Their Characteristics. Losses, Efficiencies and Rating. Electrolytic Conduction and Batteries. Direct-current Distribution. Part II. ALTERNATING CURRENTS. Alternating Electromotive Forces and Currents, Fundamental Concepts. Vector Representation. Series Circuits. Parallel Circuits. A-c Meters. Power in Single-phase Circuits. Polyphase Circuits. Transformers. Polyphase Induction Motors. Alternators. Synchronous Motors and Parallel Operation of Generators. Conversion Equipment. Single-phase Motors. A-c Transmission and Distribution. Electron Tubes and Rectifiers.

LYNCH AND TRUXAL—Principles of Electronic Instrumentation

By WILLIAM A. LYNCH and JOHN C. TRUXAL, both of Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series. Brooklyn Polytechnic Institute Series.*

864 *pp.*, 6 *x* 9, 666 *illus.* (1962).....$7.50*c*

This book is designed to follow the author's first volume, INTRODUCTORY SYSTEM ANALYSIS to provide a modern and comprehensive one-year course for science and engineering curricula other than electrical engineering. It presents an introduction to the basic principles of electronic instrumentation systems where the term instrumentation is interpreted as encompassing not only the measurement of electrical quantities, but of physical variables in all fields of engineering, the conversion of signals from one form to another, and the utilization of feedback-control principles in the design and implementation of basic instrumentation functions.

CONTENTS—Preface. Introduction. Networks with Controlled Sources. Determination of Models for Physical Devices. Electronic Amplifiers. Feedback Systems. Instrumentation Systems and Communication. Electromechanical Transduction Systems. Systems for Automatic Navigation. Index.

NEAL—Introduction to Electrical Engineering Theory

By J. P. NEAL, University of Illinois.

402 *pp.*, 6 *x* 9 (1960).....$9.50*c*

A thorough and coherent introduction to the fundamentals of linear classical electromagnetic field theory for steady and slowly-time-varying states in a logical sequence beginning with steady current fields and progressing through electrostatic fields, magnetic fields, and electromagnetic fields. The text explains the simplifying assumptions on the basis of which the fundamentals of network theory relate through field theory to physical systems. It introduces the fundamentals of linear electric network theory, developing the mesh and node methods of D-C network solutions and the fundamental network theorems.

CONTENTS—PREFACE. The Rationalized MKS System of Measures. Introduction. Measures of Electromagnetic Characteristics. Vector Concepts. Local Current Fields. Electrostatic Fields. Magnetic Fields. Electromagnetic Induction Fields. Electric Network Structure. Electric Network Analysis. Appendices: Important Physical Constants, The Greek Alphabet, Conversion Factors, Typical Values of Field Parameters. Index.

RICKER AND TUCKER—Electrical Engineering Laboratory Experiments

By C. W. RICKER, Tulane University, and CARLTON E. TUCKER, Massachusetts Institute of Technology. Fourth Edition.

458 *pp.*, 6 *x* 9, *illus.* (1940).....$7.95*c*

This manual gives the theory involved in each experiment in sufficient detail so that reference books will, in general, not be necessary. The procedure required to obtain certain results is outlined in detail. At the end of the procedure is a list of results which can be determined from the data taken by following the outlined procedure.

CONTENTS—TABLE OF SYMBOLS. I. Measuring Devices and Their Applications. II. The Calculation of Instrument Ranges. III. Laboratory Records and Reports. IV. Safety Rules and Suggestions. EXPERIMENTS.

WILLIAMS AND YOUNG—Electrical Engineering Problems

By E. M. WILLIAMS and F. J. YOUNG, Carnegie Institute of Technology. *Elec. & Electron. Engg. Series.*

294 *pp.*, 6 *x* 9, 218 *illus.* (1960).....$7.95*c*

A collection of electrical engineering problems suitable for use in "problem-solving" laboratory activities, the book includes selections dealing with linear and non-linear d-c and a-c circuits, electromechanical devices, transformers, magnetic-core switching circuits, rotating-machines, and vacuum and semiconductor electronic circuits. The solutions of the problems require methods emphasizing creative reasoning from basic science without empirical or technological "know-how."

Circuits

BRENNER AND JAVID—Analysis of Electric Circuits

By EGON BRENNER, and MANSOUR JAVID, both The City College of New York. *Elec. & Electron. Engg. Series.*

703 *pp.*, 6 *x* 9, 728 *illus.* (1959).....$9.95*c*

An integrated treatment of network response is provided through the early introduction and application of the notion of complex frequency, network functions and their poles and zeros without sacrificing conventional skills, such as the solution of a-c circuit problems. The analytical and graphical skills which are developed will serve the student not only in the application to "electronic" and "power" circuits, but also in his advanced study of linear system analysis and synthesis.

CONTENTS—Preface. The Circuit Concept. Waveforms. Circuit Elements. Response of Single Elements. Kirchhoff's Laws and Network Equations. Circuits Containing Only One Type of Element. Source-free Combination of Elements. Complex Numbers and Their Application to Sinusoidal Time Functions. The Source-Free R-L-C-Circuit. Equivalent Circuits for Practical Sources. Response of Circuits with Sources. Network Functions. Poles and Zeros of Network Functions. Circuits in the Sinusoidal Steady State. Adjustable Circuits in the Sinusoidal Steady State. General Analysis Techniques. Three-phase Circuits. Circuits with Magnetic Coupling. Harmonic Analysis and Fourier Series. Appendix: Matrices and Determinants. Index.

BROWN—Analysis of Linear Time—Invariant Systems

By W. M. BROWN, University of Michigan. *Series in Elec. & Electron. Engg.*

350 *pp.*, 6 *x* 9, 129 *illus.* (1963).....$11.75*c*

This book develops in considerable depth operational analysis and its applications to the study of linear time invariant systems. Though fundamentals are stressed, the book is slanted toward system evaluation and optimization rather than toward detailed design work. The material in the book, including a treatment of statistical processes, provides a good basis for a study in depth of electronic systems such as radar, sonar, and communication systems in general.

CONTENTS—Introduction and Operational Analysis for Exponentially Amplitude Modulated Sinusoids. Theory of Two-Sided Laplace Transforms with Simple Applications. Foundations of Operational Analysis. Complex Parameter Systems. System Response Time. Band Pass Systems, Hilbert Transforms, and Relations Between Components of the Transfer Function. Discrete Systems and Z-Transforms. Introduction to Power Spectra, Autocorrelation Functions, and Optimum Linear Systems. Introduction to Analysis and Optimization of Radar and Communication Systems. Complements: Mathematics of Fourier Transforms. References. Index.

FRIEDLAND, WING AND ASH—Principles of Linear Networks

By BERNARD FRIEDLAND, OMAR WING and ROBERT ASH, all of Columbia University. *Elec. & Electron. Engg. Series.*

281 *pp.*, 6 *x* 9, 460 *illus.* (1961).....$8.95*c*

This introduction to linear electric circuits gives a carefully balanced presentation of all the concepts of circuit theory needed for undergraduate work in electronics, energy conversion and other subjects in the curriculum. It also provides the basis for advanced work in circuit theory. Emphasis is placed on the basic principles introduced in order of importance.

CONTENTS—Preface. Fundamentals. Circuit Elements. Basic Principles of Network Analysis. Independent Network Analysis. Independent Network Equations. Nodal and Loop Analysis. Elementary Transient Analysis. Networks in the Sinusoidal Steady State. Frequency Characteristics of Networks. Two-Terminal-Pair.

HAYT AND KEMMERLY—Engineering Circuit Analysis

By WILLIAM H. HAYT, JR., Purdue University and JACK E. KEMMERLY, Ford Motor Company. *Elec. & Electron. Engg. Series.*

647 *pp.*, 6 *x* 9 (1962).....$10.95*c*

This highly student-oriented book, for a first course in electrical engineering, features a self-teaching approach. That is, it is designed to make it possible for the student to master the essential material with very little additional assistance from the instructor. Primarily for engineering sophomores, it presumes prior courses in elementary and differential calculus, although other necessary mathematics is taught throughout the book as the need arises. Coverage includes: resistive circuits, transient analysis, sinusoidal steady-state analysis, complex frequency concept, Fourier analysis, elementary topology and polyphase circuit analysis. Numerous drill problems at the end of each section enable the student to test his own mastery of basic concepts.

HUELSMAN—Circuits, Matrices, and Linear Vector Spaces

By L. P. HUELSMAN, Univ. of Arizona. *Electron. Sc. Series.*

281 *pp.*, 6 *x* 9, 230 *illus.* (1963)....$10.75*r*

A graduate level text for electrical engineering students. It outlines new techniques in network analysis for students who already have a basic foundation in the area. The inclusion of material on linear vector spaces and their circuit applications is unusual in a work at this level, and integrated, definitive treatments of modern network devices such as the negative-immittance converter and gyrator are especially useful. The book is as self-contained as possible: all required concepts of matrix algebra and linear vector spaces are developed as integral parts of the book. Thorough applications of the mathematical material are given.

CONTENTS—Introduction. Matrices and Determinants. Circuit Theory Applications of Matrices. Two-Port Devices. Linear Vector Spaces. Circuit Theory Applications of Linear Vector Spaces. Appendixes.

JAVID AND BRENNER—Analysis, Transmission, and Filtering of Signals

By MANSOUR JAVID and EGON BRENNER, The City College of New York. *Series in Elec. & Electron. Series.*

650 *pp.*, 6⅜ *x* 9¼, 467 *illus.* (1963) $12.75*c*

This book presents a unified treatment of a great variety of subjects, and includes Fourier series and integrals with application to frequency analysis, an introduction to modulation theory and noise calculations, a thorough discussion of Laplace transform and its application to the analysis of linear lumped or distributed parameter systems. The text will be useful for intermediate courses in linear system analysis at the junior-senior level in virtually every electrical engineering department.

MORECOCK—Direct-current Circuits

By EARLE M. MORECOCK, Rochester Institute of Technology. Second Edition.

388 *pp.*, 6 *x* 9, *illus.* (1953).....$6.00*c*

This successful first book in electricity includes theory, practical examples, and excellent questions and problems prepared for use in technical institutes, junior colleges, industrial courses and home study. Nonrigorous mathematically, the treatment presupposes a thorough understanding of high-school intermediate algebra and plane geometry. The mks rationalized system is used throughout, and much emphasis is placed on communication aspects of electricity without neglecting power subjects.

CONTENTS—Electrical Concepts and Units. Diagrams and Resistance Combinations. Magnetism and Electromagnetism. Instruments and Methods for Measuring Potential Difference and Current. Instruments and Methods for Measuring Resistance. Power and Energy. Conductors and Insulation. Batteries. Network Circuits. The Magnetic Circuit. Electromagnetic Induction. Capacitance. Electrostatics. Appendixes: Symbols and Units, Constants, Conversion Factors, Resistivity and Temperature Coefficients, Wire Tables, Current Capacities of Conductors.

MORECOCK—Alternating-current Circuits

By EARLE M. MORECOCK, Rochester Institute of Technology.

175 *pp.*, 6 *x* 9, *illus.* (1949).....$3.50*v*

This book is the companion volume to the author's *Direct-current Circuits* and both volumes form an excellent prerequisite to Siskind's *Electrical Machines*. Clearly written and well organized, it requires no knowledge of calculus. There is a large selection of problems at the end of each chapter.

CONTENTS—Alternating-current Waves and Quantities. Vectors and Complex Quantities. Single-phase Systems. Polyphase Systems.

OPPENHEIMER AND BORCHERS—Direct and Alternating Currents

By SAMUEL L. OPPENHEIMER, Ohio Technical Institute, and JEAN P. BORCHERS, formerly Ohio Technical Institute. *Electronics Publication Engineer North America Aviation.*

400 *pp.*, 6 *x* 9, 488 *illus.* (1963)....$10.95*t*†

This fundamental circuits text supplies the necessary rigor for the education of capable engineering technicians. Here is the comprehensive background that will enable engineering technicians to encounter many of the routine tasks that are part of any engineering function. The text employs the modern approach throughout, characterized by the con-

† *Textbook edition available at educational list price.*

cept of electron flow. It can be used in both power and electronics-oriented courses, or for the middle-of-the-road courses that prepare students to operate in either technology. The text starts with the nature of matter and proceeds through Ohm's Law, modern network analysis, magnetic and dielectric circuits. There is good balance between DC and AC with an unusually complete coverage of alternating-current circuits. Magnetism is featured to a greater extent than in most texts at this level. Although the approach is primarily practical, it requires considerable theoretical and analytical insight. By emphasizing the analytical approach to circuits, students are enabled to convert theory into results more easily. Step-by-step solutions to network analysis are presented in numerous detailed examples. The math requirements of this text increase with the normal progress of a student taking college level algebra and trigonometry concurrently with the DC and AC courses. Calculus is not required. The text maintains a degree of sufficient rigor for the engineering technician who wants to update his knowledge.

CONTENTS—Fundamentals. Physical and Electrical Units. Ohm's Law and the Electric Circuit. Power. Electromagnetism and Magnetic Circuits. Electromagnetic Induction. Capacitance. Network Theorems. Alterna'ing Voltages and Currents. Resistance. Inductance, and Capacitance in A-C Circuits. Series and Parallel Resonant Circuits. Series and Parallel Resonant Circuits. A-C Network Theorems and Bridge Circuits. Coupled Circuits. Non-sinusoidal Voltages and Currents. Polyphase Circuits.

PETTIT AND McWHORTER—Electronic Amplifier Circuits

Theory and Design

By JOSEPH MAYO PETTIT and MALCOLM MYERS MCWHORTER, both Stanford University. *Elec. & Electron. Engg. Series.*

338 *pp.*, 6 *x* 9, 255 *illus.* (1961) $9.75*c*

Presents the study of electronic amplifier circuits from an advanced point of view, explaining how more advanced mathematics can be applied to the subject to bring into sharp focus the relative limitations of the various physical phenomena, to provide new breakthroughs in design.

CONTENTS—Preface. Basic Amplifier Definitions. Equivalent Circuits for Linear Active Devices. The Steady-state Characteristics of a Low-pass (Video) Amplifier. Step Response of Low-pass (Video) Amplifiers: Speed of Rise. Step Response of Low-pass Amplifiers for Large Values of Time: Sag, etc. Additive Amplification. Introduction to the Filter Amplifier. Generalizations and Interpretations. Commonly Used Functions for Approximating Constant Gain or Linear Phase. Stagger Tuning. The Double-tuned Interstage. The Feedback Pair. Noise in Amplifier Circuits. Some General Noise Factor Relationships. Amplifier Measurements.

SISKIND—Electrical Circuits

Direct and Alternating Current

By CHARLES S. SISKIND, Purdue University. (1956) $6.75*cL*

510 *pp.*, 6 *x* 9, *illus.*

Concerned with the fundamental principles of electric and magnetic circuits, this book is divided into two major parts: Part I deals with circuits in direct-current systems, while Part II builds upon the former and deals with circuits in alternating-current systems.

CONTENTS—ELECTRICAL CIRCUITS—DIRECT CURRENT. Basic Electrical Ideas and Units. Wires, Cables, and Insulation. Direct-current Circuits I—Ohm's Law—Power—Energy. Direct-current Circuits II—Kirchhoff's Laws—Basic Theorems. Magnetism and Magnetic Fields. Magnetic Circuits. Direct-current Instruments and Measurements. Inductance and Electromagnetic Induction. Capacitance and Dielectric Circuits. ELECTRICAL CIRCUITS—ALTERNATING CURRENT. Sinusoidal Voltages and Currents. Resistance (*R*), Inductance (*L*), and Capacitance (*C*) Circuits. Parallel and Series-Parallel Circuits. Resonance in Series and Parallel Circuits. Circuit Analysis by Vector Loci. Network Laws, Theorems, and Principles. Coupled Circuits and Mutual Induction. Alternating-current Instruments and Measurements. Polyphase Circuits. Non-sinusoidal Waves. APPENDIX 1. Derivatives of Fundamental Equations. I—Direct-current Circuits. II—Alternating-current Circuits. APPENDIX 2. Natural Sines, Cosines, Tangents, and Cotangents. APPENDIX 3. Common Logarithms of Numbers. Visual Aids. Index. Answers.

LEY, LUTZ AND REHBERG—Linear Circuit Analysis

By B. JAMES LEY, New York University; SAMUEL G. LUTZ, Hughes Aircraft Company, Formerly New York University; and CHARLES F. REHBERG, New York University. *Elec. & Electron. Engg. Series.*

560 *pp.*, 6 *x* 9, *illus.* (1959) $13.50*c*

Written for both power and communications students in either advanced undergraduate or beginning graduate courses in linear, lumped-constant circuit theory. The text presents the fundamental theory of linear lumped circuits as an integrated, continuous story; each topic leads logically to the next. Aspects of circuit theory that are a common basis for advanced courses are emphasized.

CONTENTS—Preface. Formulation of the Integrodifferential Equations of Electric Circuits Having Lumped Parameters. Some Topology and Matrix Methods. Steady-state Solution of Circuit Integrodifferential Equations. The Classical Transient Solution of Circuit Integrodifferential Equations. Mechanical Analogues. Fourier-series Analysis. The Fourier Integral. The Laplace Transformation. Equivalent Circuits and Some Circuit Theorems. Index.

THOMPSON—Alternating Current and Transient Circuit Analysis

By HARRIS A. THOMPSON, Thompson Engineering Products, Boulder, Colorado. *Elec. & Electron. Engg. Series.*

317 *pp.*, 6 *x* 9 (1955) $8.50*c*

In this introduction to the fundamental concepts of practical steady-state a-c circuit analysis and transient analysis, the essentials of circuit analysis are presented to prepare the reader for the practical application of analysis techniques. Transient analysis is similarly developed from traditional methods, with emphasis on the applications and understanding of the basic behavior of electrical circuit parameters. The sequence of presentation permits the logical development of the use of complex numbers allowing, at the same time, for complete coverage of the more basic fundamentals.

CONTENTS—Elementary Circuit Concepts. General Concepts and Definitions. Complex Algebra and Phasors. Current, Voltage, Power, and Energy Relations. Use of Phasors in Steady-state Circuit Analysis. Special Aids in Circuit Analysis. Three-phase Circuit Analysis. Nonsinusoidal Periodic Waves. Transient Analysis. Mathematical Analogues.

WALSH AND MILLER—Introductory Electric Circuits

By JOHN B. WALSH, Columbia University Electronics Research Laboratories, and KENNETH S. MILLER, New York University.

353 *pp.*, 6 *x* 9, *illus.* (1960) $8.95*c*

This modern text presents direct currents, transients, and steady state alternating currents in an integrated, balanced manner. DC circuits are used to introduce basic physical and topological concepts. The nature of circuit equations as differential equations is emphasized before treating steady state circuits by the simplified techniques of phasors and complex algebra. Fourier series is presented, and the Laplace transform is developed as a technique for solving problems in transients. Circuits

with sinusoidal excitations are discussed in great detail, and the results are generalized in terms of the s-plane. Also included are an examination of two-terminal networks and two terminal-pair networks, a rigorous discussion of energy and power, energy distribution and polyphase circuits, and the measurement of voltage, current power, and instrument corrections.

CONTENTS—Preface. Direct Current Circuits. Circuits with Energy Storage. Solution of the Equilibrium Equations. Complex Impedance and the Use of Phasors. General Steady-state Analysis of A-C Circuits. Two-terminal Networks. Two Terminal-pair Networks. Energy Distribution and Polyphase Circuits. Fourier Series. The Laplace Transform and Transient Analysis. The Matrix Analysis of Electric Networks. Appendices: Determinants. Partial Fractions. A Short Table of Laplace Transforms.

Antenna

STEINBERG AND LEQUEUX—Radio Astronomy

By J. L. STEINBERG and J. LEQUEUX, both of Paris-Meudon Observatory. Translated by R. N. BRACEWELL, Stanford Univ. *Electron. Sc. Series.*

253 *pp.*, 6 *x* 9, 156 *illus.* (1963).....$9.95*r*

Examines radio waves of extraterrestrial origin. The material is principally concerned with the techniques of radio astronomy and is presented in close conjunction with the results of optical observations.

CONTENTS—Foreword by Danjon. The Role of the Atmosphere. Thermal Radiation. Simple Radio Telescopes. Interferometers and Aperture Synthesis. Spectral Observations. Mechanisms of Emission of Radio Waves. Radio Emission from the Sun. Radio Emission from the Solar System. Galactic Radio Emission. Galactic Radio Sources. Extragalactic Radio Sources. Conclusion.

Electrochemistry

APPLEGATE—Cathodic Protection

By LINDSAY M. APPLEGATE, U.S. Army (Retired).

229 *pp.*, 6 *x* 9, 69 *illus.* (1960).....$9.75*i*

Presents the essential principles of underground and underwater corrosion of structural metals and the methods of protecting them from corrosion. The scope of the book includes, besides the principles of corrosion and cathodic protection, protective coatings, anode materials, field surveys, evaluation of field data, economic considerations, design, and practical examples of typical installations from a wide range of localities. Discusses such recent materials as high-silicon cast iron anodes and hot-line enamels.

CONTENTS—Preface. Corrosion and Cathodic Protection. Instruments and Measurements. Survey and Current Tests. Coatings. Anodes. Design, Construction, and Maintenance. Protection of Structures in Contact with Soil. Protection Under Water and in Special Conditions. Index.

Electromagnetic Engineering

COLLIN—Field Theory of Guided Waves

By ROBERT E. COLLIN, Case Institute of Technology. *Int'l Series in Pure & App. Physics.*

620 *pp.*, 6 *x* 9, 277 *illus.* (1960)....$17.50*c*

A graduate-level, theoretical treatment of guided electromagnetic waves, the book presents a logical account of the basic principles underlying the theory of guided electromagnetic waves, wave guiding structures, and associated devices. It presents an account of the more important analytical techniques available for the solution of waveguide field problems and illustrates the use of these techniques in the solution of practical problems.

CONTENTS—Preface. Basic Electromagnetic Theory. Green's Functions. Transverse Electromagnetic Waves. Transmission Lines. Propagation in Cylindrical Waveguides. Inhomogeneously Filled Waveguides. Excitation of Waveguides. Variational Methods for Waveguide Discontinuities. Periodic Structures. Integral Transform and Function Theoretic Techniques. Surface Waveguides. Artificial Dielectrics. Mathematical Appendix.

HARRINGTON—Introduction to Electromagnetic Engineering

By ROGER F. HARRINGTON, Syracuse University. *Elec. & Electron. Engg. Series.*

312 *pp.*, 6 *x* 9, 176 *illus.* (1958).....$8.95*c*

Intended for an introductory study of electromagnetic theory at the junior, senior, or first year graduate level. The development of this text is based on circuit theory rather than on the classical force-relationship approach. The theory of electric circuits is used to provide a system of "experiments" already familiar to the electrical engineer. The field concepts are then introduced as a logical extension of the already known circuit concepts. The purpose of the text is three-fold; to enable the student to understand and become familiar with the various field quantities and concepts; to teach him the necessary vector analysis and associated mathematics; to give him practice in solving a number of elementary field problems.

CONTENTS—Preface. Basic Concepts. Charge Density and Current Density. Electric Intensity and Magnetic Flux Density. Electric Flux Density and Magnetic Intensity. The Field of Static Charges. The Field of Steady Currents. Some Field Concepts. The Boundary Value Problem. Circuit Elements. The Electromagnetic Field. Appendices. Bibliography. Index.

HARRINGTON—Time-Harmonic Electromagnetic Fields

By ROGER F. HARRINGTON, Syracuse University. *Elec. & Electron. Engg. Series.*

480 *pp.*, 6 *x* 9, 240 *illus.* (1961).....$13.50*c*

This new text presents mathematical techniques for handling electromagnetic engineering problems and is ideal for a course in the first or second year of graduate work, it is also an extremely valuable reference book. The material is categorically arranged according to similarity of mathematical techniques instead of according to devices. While the treatment is theoretical, with theorems proved and formulas derived, it is also practical in the sense that many useful examples of the theory are provided. The book gives various pertinent examples of applications and calculations recently reported in the professional journals. There are approximately 300 well-chosen problems, many numerical calculations and graphs, all compiled to illustrate various complicated formulas and theories. This text is written on a higher mathematical level than most books in the field. The chapter on Microwave Circuit Theory, with emphasis on the calculation of network parameters, is unusual in such a book.

CONTENTS—Preface. Fundamental Concepts. Introduction to Waves. Some Theorems and Concepts. Plane Wave Functions. Cylindrical Wave Functions. Spherical Wave Functions. Perturbational and Variational Techniques. Microwave Networks. Vector Analysis. Complex Permittivities. Fourier Series and Integrals. Bessel Functions. Legendre Functions.

HAYT—Engineering Electromagnetics

By WILLIAM H. HAYT, JR., Purdue University. *Elec. & Electron. Engg. Series.*

328 *pp.*, 6 *x* 9, 83 *illus.* (1958).....$9.50*c*

This is a clearly written, unusually teachable text for the modern junior-level introductory

course in electric and magnetic fields. The author's primary objective is the development and understanding of Maxwell's equations. The material includes electrostatics, the steady magnetic field, time-varying fields and Maxwell's equations. Vector analysis is used throughout. The book contains drill problems and chapter-end problems. There are 86 of the former and 231 of the latter.

CONTENTS—Preface. Vector Analysis. Coulomb's Law and Electric Field Intensity. Electric Flux Density, Gauss's Law, and Divergence. Energy and Potential. Conductors in Electrostatic Fields; Capacitance. Experimental Mapping Methods. Poisson's and LaPlace's Equations. The Steady Magnetic Field. Forces in Steady Magnetic Fields. Time-Varying Fields and Maxwell's Equations. Several Applications of Maxwell's Equations. Charged Particles in Electromagnetic Fields. Appendix A. Vector Analysis. Appendix B. Dimensions and Units. Appendix C. Material Constants. Index.

JAVID AND BROWN—Field Analysis and Electromagnetics

By MANSOUR JAVID and PHILIP MARSHALL BROWN, both City College of New York. *Series in Elec. & Electron. Engg.*

544 *pp.*, 6⅜ x 9¼, 210 *illus.* (1963) . $12.75*c*

A science-oriented, mathematically rigorous introduction to field theory and mathematics for electrical engineering and physics students. Theory is presented first throughout, followed by examples which illuminate the theoretical development. It affords a high degree of selectivity in topic emphasis. The text is divided into three parts: field analysis; basic electromagnetic theory; and applications.

CONTENTS—Preface. Vector Algebra. Field Concepts. General Coordinates. Directional Derivatives, and Line Integrals. Volume Density of Scalar and Vector Sources of a Vector Field; Divergence and Curl. The Evaluation of Fields from Their Sources; Poisson's Equation and the Wave Equation. The Laws of Electromagnetic Theory. Fields of Static Charge and Current Distribution. Singular Source Densities and Discontinuous Fields; Capacitance and Inductance. Fields in Source-free Regions; Separation of Variables. Some Properties of Matter. Radiating and Quasi-Static Fields. Propagation of Guided Plane Waves; Transmission Lines and Rectangular Waveguides. Plane Waves in Lossy Media; Signal Propagation and Dispersion. Reflection of Plane Waves at Plane Boundaries; Stress and Momentum. Antennas.

KRAUS—Electromagnetics

By JOHN D. KRAUS, Ohio State University. *Elec. & Electron. Engg. Series.*

604 *pp.*, 6 x 9, 381 *illus.* (1953) $12.50*c*

Gives a thorough, well-balanced treatment of electromagnetic theory, from the elementary principles through the more advanced theory and applications. The first half covers static fields, currents, and time-changing fields. The second half treats space waves, guided waves, radiation, and boundary value problems. The basic principles of electromagnetic theory are presented with approximately equal emphasis on those phases which apply to such diverse areas as electronics, radiation, magnetism, and propagation.

CONTENTS—Preface. The Static Electric Field. The Steady Electric Current. The Static Magnetic Field of Steady Electric Currents. The Static Magnetic Field of Ferromagnetic Materials. Charged Particles in Electric and Magnetic Fields. Time-changing Electric and Magnetic Fields. The Relation between Field and Circuit Theory. Maxwell's Equations. Plane Waves in Dielectric Media. Plane Waves in Conducting Media. Transmission Lines. Wave Guides. Antennas. Boundary-value Problems. Appendix. Bibliography. Index.

LANGMUIR—Electromagnetic Fields and Waves

By ROBERT V. LANGMUIR, California Institute of Technology. *Series in Engg. Sc.*

227 *pp.*, 6 x 9, 96 *illus.* (1961) $9.75*c*

A senior or first-year graduate text in electromagnetic theory, this book serves both as background and prerequisite matter for further study in the field, and acts as a normalizer, employing varying backgrounds to achieve a relatively uniform point in the understanding of basic electrostatic and magnetic phenomena. It covers essentially the fields of electrostatics, magnetostatics, radiation including plane waves, waveguides, spherical radiation and propagation in unusual structures such as cover the surface of the earth.

CONTENTS—Preface. Introduction to Electrostatics. Laplace's Equation. Dielectric Phenomena. Magnetism. Magnetic Materials. Maxwell's Equations. Electromagnetic Waves. Rectangular Waveguides. Skin Effects and Losses in Waveguides. Tem Waves. Solution of the Wave Equation. Cavities and Cylindrical Modes. Some Topics in Wave Propagation. Appendix. References. Index.

PLONSEY AND COLLIN—Principles and Applications of Electromagnetic Fields

By ROBERT PLONSEY and ROBERT E. COLLIN, both of Case Institute of Technology.

570 *pp.*, 6 x 9, 273 *illus.* (1961) $12.75*c*

A thorough and complete treatment of basic electromagnetic fundamentals, together with a detailed and broad coverage of applications. The book begins with a thorough introduction to vector analysis with emphasis on physical interpretations. This is followed by a careful treatment of electrostatics, stationary current flow fields, magnetostatics, time varying fields and Maxwell's equations. A separate chapter provides an introduction to the "separation of variables" and "conformal mapping" techniques for solving Laplace's equation. The last three chapters cover a variety of important representative applications of current interest, such as wave guides, transmission lines, resonators, antennas, space-charge control tubes, space-charge waves, propagation in gyrotropic media and magneto-hydrodynamic waves.

CONTENTS—Preface. Vector Analysis. Electrostatics. Electrostatic Fields in Material Bodies, Energy and Forces. Solution of Boundary Value Problems. Stationary Currents. Static Magnetic Field in Vacuum. Magnetic Field in Material Bodies. Quasi-Stationary Magnetic Field. Time Dependent Fields. Plane Waves, Waveguides, and Resonators. Radiation and Antennas. Interaction of Charged Particles with Fields. INDEX.

ROGERS—Introduction to Electric Fields

A Vector Analysis Approach

By WALTER E. ROGERS, University of Washington. *Elec. & Electron. Engg. Series.*

333 *pp.*, 6 x 9, 149 *illus.* (1954) $9.50*c*

A well-integrated, carefully written text for courses in field theory or electromagnetics. The purpose of the book is first to present Maxwell's equations as a logical summary of some truly analytical experience in solving the problems of electric and magnetic fields by vector methods, and second, to provide an introduction to potential theory and boundary-value problems which will form a foundation for the concept of vector potential.

CONTENTS—Vector Analysis. Electrostatic Fields from the Viewpoint of Coulomb's Law. Potential and Potential Gradient. The Electric Field in Current-carrying Conductors. Electrostatic Fields from the Viewpoint of Gauss's Law. The Method of Images. Dielectrics and Insulation. Divergence and the Equations of Poisson and Laplace. The Magnetostatic Field. Time-varying Electric and Magnetic Fields. Vector Potential.

SEELY—Electromechanical Energy Conversion

By SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.*

352 *pp.*, 6 x 9, 238 *illus.* (1962) $10.75*c*

This text is a presentation for undergraduate electrical engineering students which presup-

poses a knowledge of electricity and magnetism, a fundamental course in dynamics, network analysis and the use of Laplace transforms in the analysis of linear differential equations. It presents the fundamental concepts of electricity and magnetism that underlie the operation of electromechanical energy devices. These concepts are applied to a description of the transformer, the incremental energy transducer, and the rotating electrical machine.

CONTENTS—Electrical Energy Proceses. Principles of Electromechanical Energy Conversion. Energy Transfer Devices. Duals and Analogs. Lagrange's Equations and Dynamical System Analysis. Incremental Motion Transducers. Rotary Power Converter. Generalized Machine Theory. Air Gap Fields in Rotating Machines. The Generalized Machine—Alternate Formulation. The n–m Symmetrical Machine. Graphical Analysis of Machine Performance. Appendixes: A. Matrices. B. Maxwell's Equations.

SEELY—Introduction to Electromagnetic Fields

By SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.*

308 *pp.*, 6 *x* 9, 180 *illus.* (1958).....$9.50*c*

An introductory text designed to meet the needs of the electrical engineering student. In addition to the general aspects of fields, such considerations as the sources and torques in such fields, and the general idea of energy transfer and conversion, have been highlighted. Special features include the following: the presentation begins with considerations of scalar fields, and then leads into the vector field; the use of vector notation has been introduced wherever practical as an integral part of the text development; considerable emphasis has been given to the application of the principles of virtual displacement and virtual work; an extensive number of illustrative examples have been included throughout the text to relate the results to practical problems.

CONTENTS—Preface. The Electric Field in Multidimensional Conductors. Static Electric Fields. Conductors, Dielectrics, Capacitors. Energy and Mechanical Forces in the Electric Field. The Magnetic Field of Currents in Free Space. Magnetic Effects of Iron. Energy and Mechanical Forces in the Magnetic Field. Electromagnetic Induction. Maxwell's Equations; Electromagnetic Waves. Appendix. Summary of Vector Formulas. Bibliography. Index.

VAN BLADEL—Electromagnetic Fields

By JEAN VAN BLADEL, Univ. of Wisconsin. *Series in Elec. & Electron. Engg.*

In Press

Rigorous, graduate level coverage of mathematical techniques applied systematically to the calculation of electromagnetic fields. Devoted to the solution of Maxwell's equations in a frame of reference where all ponderable bodies are at rest, text covers eigen function methods, variational methods, and formulation of problems in terms of integral equations. Two introductory chapters provide mathematical foundations, and the appendices contain a rich collection of formulae pertinent to electromagnetic research. Examples are often taken from recent literature.

CONTENTS—Linear Analysis. Variational and Perturbational Techniques. Electrostatic Fields in the Presence of Dielectrics. Electrostatic Fields in the Presence of Conductors. Special Geometries for the Electrostatic Field. The Magnetostatic Field and Stationary Magnetic Fields. Time-dependent Fields in Vacuum. Time-dependent Fields in the Presence of Material Media. High and Low-frequency Limits. Resonant Cavities and the Interior Problem. Aperture Radiation and Scattering: The Exterior Problem. Two-dimensional Fields and Plane Boundaries. Cylindrical Boundaries. Conical Boundaries and Boundaries of Revolution. Bibliography. Appendices.

Networks and Transmission Lines

CAUER—Synthesis of Linear Communication Networks—Volumes I and II

By WILHELM CAUER. Edited by WILHELM KLEIN and FRANZ M. PELZ. Translated by G. E. KNAUSENBERGER and J. N. WARFIELD. *Elec. & Electron. Engg. Series.* Second Edition.

866 *pp.*, 6 *x* 9 (1958).....$24.50*i*

A translation, in two combined volumes, of a classic German work familiar to all workers in the network synthesis field. The German editors have attempted to improve the readability and lucidity of the presentation by adding a large number of illustrating comments and footnotes; otherwise, Cauer's original text stands with only a few changes. VOLUME I contains a basic exposition of network analysis and synthesis, as well as the discussion of the image parameter method. In VOLUME II the mathematical fundamentals given in Volume I are extended. There is also a discussion of what is normally considered the insertion parameter design method, band separation networks, and network equivalence, together with more practical design aids.

CONTENTS OF VOLUME I—Introductory Chapter. Statement of the Problem and Examples. Circuit Analysis. Two-terminal-pair Networks. Positive Real Functions and Positive Matrices. Ideal Transformers. Reactance Theorems. Image Parameter Theory of the Lowpass Reactance Filter. Generalized Image Parameter Theory. Appendix I—Two-terminal-pair Network Formula Collection. Appendix II—Practical Filter Design Techniques Based on the Image Parameter Theory.

CONTENTS OF VOLUME II—Reactance Two-terminal-pair Networks with Prescribed Operating Conditions. Frequency Band-separation Networks. Equivalence of Reactance Networks. Appendix I—Aids in Linear Algebra. Appendix II—Elements of the Theory of Analytic Functions. Appendix III—Solution of Some Chebyshev Extremal Problems. Appendix IV—Practical Filter Design Techniques Based on the Operating-parameter Theory. Appendix V—Recent Advances; Supplementary References.

EVERITT AND ANNER—Communication Engineering

By W. L. EVERITT and G. E. ANNER, University of Illinois. Third Edition.

634 *pp.*, 6 *x* 9, 366 *illus.* (1956)....$11.50*c*

Noted for its clear, step-by-step analysis of the major problems confronting the communications engineer. In the third edition, emphasis is placed on the area which must precede the study of all other divisions of communication, namely, the fundamentals of linear-network analysis and synthesis, including the use of unilateral elements. In order to demonstrate the design requirements which are imposed on the linear portions of communications systems networks, both an analysis of various types of modulation and the transformation of transients from the time to the frequency domain are developed.

CONTENTS—List of Symbols. Fundamental Principles of Communication Networks. Methods of Network-behavior Analysis. Steady-state Analysis and Network Theorems. Resonance. Bridge Networks. Iterative Networks. Wave Filters. The Infinite Line. Reflection. Lines of Low Loss. Impedance Transformation. Impedance Matching with Stubs. Broad-band Impedance Transformation. Equalization. Linear Amplifiers. Electromechanical Coupling. Appendix: Hyperbolic Functions. Index.

HARMAN AND LYTLE—Electrical and Mechanical Networks

By W. W. HARMAN, Stanford University; and D. W. LYTLE, University of Washington. *Elec. & Electron. Engg. Series.*

606 *pp.*, 6 *x* 9, 508 *illus.* (1962)....$11.50*c*

This is an introductory treatment, at the sophomore-junior level, of the analysis of electrical, mechanical, and electromechanical networks. The basic approach is the conceptually simple but potentially rigorous and powerful method of describing the linear network by finding the ratio of excitation to response when the excitation is of the e^{st}. The approach is developed through a carefully chosen, graded series of examples in which the student is led to consider how one might have come originally to think of the analysis methods he is to learn.

JOHNSON—Transmission Lines and Networks
By WALTER C. JOHNSON, Princeton University. *Elec. & Electron. Engg. Series.*
354 *pp.*, 6 *x* 9, 231 *illus.* (1950)....$8.95*c*
Provides a unified treatment of the theory of transmission lines and four-terminal networks, with applications to both the power and the communication field. It may, therefore, be used by electrical engineering students who are taking either power or communications. The presentation is such that it can be followed by a student who has studied calculus and elementary a-c circuit theory.
CONTENTS—Preface. PART I—Transmission Lines. Distributed Constants and Traveling Waves. The A-c Steady State. Lines with No Reflections. The Constants of Two-conductor Lines. Lines with Reflections. Transmission-line Charts. Special Considerations for Radio-frequency Lines. Radio-frequency Lines—Measurements and Impedance Matching. Special Considerations for Telephone and Telegraph Lines. Special Considerations for Power Lines. PART II—Four-terminal Networks. A Review of Elementary Network Analysis. The Characteristics of Passive Four-terminal Networks. The Image and Iterative Operation of Four-terminal Networks. Insertion Loss and Reflection Factors. Filters. The Design of Ladder Filters. Index.

KING—Transmission Line Theory
By RONOLD W. P. KING, Harvard University.
509 *pp.*, 6 *x* 9, *illus.* (1955).....$12.50*c*
Providing a systematic, rigorous, and reasonably complete treatment of transmission lines of various types, this book starts with basic electromagnetic theory and derives the conventional transmission-line equations together with formulas for line constants and all approximations involved. The formulation is sufficiently general to permit the analysis of end effects and discontinuities as well as the more usually treated properties.
CONTENTS—The Infinitely Long Line. The Terminated Line. Impedance and Admittance. General Amplitude Relations for Current and Voltage on Transmission Lines. Discontinuities and Non-uniformities in Transmission Lines. Transmission-line Oscillators and Coupled Sections of Transmission Line. Index.

LePAGE AND SEELY—General Network Analysis
By WILBUR LEPAGE, Syracuse University, and SAMUEL SEELY, Case Institute. *Elec. & Electron. Engg. Series.*
505 *pp.*, 6 *x* 9, 477 *illus.* (1952)....$11.00*c*
A foundation for most phases of network analysis. It also gives some of the background for network synthesis. The subject is developed from elementary concepts, and the first part may be considered a review of a conventional course in a-c circuits. The book covers lumped and distributed networks in the steady state, and lumped networks in the transient state. Emphasis is placed on an understanding of the subject rather than on rules for working problems.
CONTENTS—Preface. Complex Quantities. Generalized Network Analysis. Network Theorems. Magnetic Coupling. Four-terminal Networks. General Properties of Lumped Networks. Selective Networks. Polyphase Systems and Symmetrical Components. Circuits with Distributed Properties. Impedance and Admittance Charts. Fourier Series in Circuit Analysis. Transients in Linear Systems. The Fourier Integral. Operational Calculus. Appendix A. Hyperbolic and Exponential Relations. Appendix B. Integro-Differential Equations. References. Index.

KUH AND PEDERSON—Principles of Circuit Synthesis
By E. S. KUH, and D. O. PEDERSON, University of California, Berkeley. *Elec. & Electron. Engg. Series.*
244 *pp.*, 6 *x* 9, 347 *illus.* (1959).....$8.50*c*
Introduces the reader to the fundamental concepts of modern circuit synthesis. The topic of synthesis is introduced with a discussion of typical communication and control systems, followed by a treatment of the approximation problem and the basic concepts and techniques of network realization. Illustrations and problems are chosen from practical system applications.
CONTENTS—Preface. Networks in Transmission and Control Systems. Properties of Network Functions. Transmission Criteria and Approximation. Two-Port Networks. Other Two-Port Descriptions. One-Port L-C Networks. The Realization of Lossless Two-Ports. Topics in the Synthesis of Band Pass Ladders. The Realization of Lossless 2-Ports—Part II. Synthesis of One-Port R-C Networks. Synthesis of R-C Two-Ports. Synthesis with Cascaded Constant-R Two-Ports. Synthesis with Image Matched Two-Ports. The Scattering Matrix and the Evaluation of Mismatch Distortion. and Energy in One-Port Networks. Selected Bibliography. Index. APPENDIX 1—Simple Continuants. APPENDIX 2—Power

MOORE—Traveling Wave Engineering
By RICHARD K. MOORE, Center for Research in Engineering Sciences, Lawrence, Kansas. *Elec. & Electron. Engg. Series.*
360 *pp.*, 6 *x* 9, 130 *illus.* (1960)....$11.00*c*
This is the first book to be published in English which treats the analogies between so many different types of waves. It was prepared with the transmission line as the teaching vehicle. Each new topic is taken up first for the transmission line or for electromagnetic waves in space. Examples are then drawn from transmission lines and from the various nonelectrical waves. Analogies are developed early for transmission lines, electromagnetic waves, vibrating strings, acoustic waves, transverse waves in solids, heat conduction, diffusion, and the wave potential of quantum mechanics. Both steady-state a-c and transient waves are discussed, the former being analyzed with both phasor diagrams and impedance charts.
CONTENTS—Introduction. Traveling Electromagnetic Waves. Non-electromagnetic Wave Equations. Transient Traveling Waves. Lossless Traveling and Standing Waves. Waves with Losses. Lumped-constant Models—Artificial Lines. Transmission Lines for Communication and Power. Impedance Charts and Matching. Resonators, and Waveguides. Oblique-incidence Plane-wave Reflections. Appendix A. Vector Analysis. Appendix B. Units Conversion Table. Index.

REZA AND SEELY—Modern Network Analysis
By FAZLOLLAH M. REZA, Syracuse University; and SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.*
373 *pp.*, 6 *x* 9, 327 *illus.* (1959)....$10.50*c*
Provides the reader with an understanding of the general properties of networks. The approach is thoroughly modern and is expressed in terms of the complex variable *s*. Network topological concepts are introduced and exploited to provide a basis for the unique selection of independent variables. The general properties of the networks, both from the steady state and the transient state, are developed.

CONTENTS—Preface. FUNDAMENTALS OF NETWORK ANALYSIS. Preliminary Considerations. s Plane; Poles and Zeros. Linear Algebra; Matrices and Determinants. Network Topology. The Network Equilibrium Equations. APPLICATIONS TO TWO-PORTS, FILTERS, TRANSMISSION LINES. Two-port Networks. Image Parameters and Conventional Filters. Linear Systems with Distributed Parameters. TRANSIENT RESPONSE AND SYSTEM FUNCTIONS. Transient Response of Linear Lumped-constant Systems. Response of Linear Systems to "Singularity Functions." The Laplace Transform. Natural Modes of Linear Systems. General Properties of Network Functions. Appendix—Some Topological Considerations in Network Theory. Index.

SKILLING—Electric Transmission Lines
By HUGH H. SKILLING, Stanford University. *Elec. & Electron. Engg. Series.*
438 *pp.*, 6 *x* 9, 185 *illus.* (1951).....$8.95*c*
A presentation of the theory of circuits with distributed constants, which is valid at all frequencies, followed by chapters on the application of this theory to radio-frequency lines, power lines, telephone lines, filters, and wave guides. It is suitable for power and communications students. It is, however, so arranged that it can be used for courses relating to one type of application only.
CONTENTS—Part I—THEORY. The Basic Equations. Traveling Waves. Standing Waves on Low-loss Lines. Lines with Loss. Line Parameters. Line Constants: Inductance and Capacitance. Line Constants: Resistance, Skin Effect, and Insulation Loss. Artificial Lines. Part II—APPLICATIONS. Application of Transmission-line Theory to Telephone Lines. Introduction to Filters. Application to Power Lines. Application to Radio-frequency Lines. Introduction to Wave Guides. Part III—TRANSIENT TRAVELING WAVES. Traveling Waves. Appendixes. Tables. Index.

STORER—Passive Network Synthesis
By JAMES E. STORER, Sylvania Electric Products, Inc. *Elec. & Electron. Engg. Series.*
319 *pp.*, 6 *x* 9, 213 *illus.* (1957)....$10.50*c*
This book provides a concise survey of the methods of network synthesis. The first third is devoted to classical synthesis methods, using image parameter methods. The remaining portion deals with "Modern Network Synthesis," i.e. insertion loss methods. This material covers both realization methods and approximation techniques. Particular emphasis is placed on recent developments in the field which heretofore have not been available in textbook form. Almost all synthesis methods presented are illustrated with one or more simple numerical examples.
CONTENTS—Preface. Introduction. IMPEDANCE SYNTHESIS. Realizability Conditions for Impedances. Foster's Reactance Synthesis. Generalization of the Foster Synthesis. The Foster Preamble. The Brune Impedance Synthesis. Hurwitz Polynomials. Darlington's Impedance Synthesis. The Bott-Duffin Impedance Synthesis. Synthesis Using Lossy Elements. NETWORK SYNTHESIS USING IMAGE PARAMETERS. Image Parameter Theory. *M*-derived Low-pass Filters. Termination of *M*-derived Filters. Frequency Transformations. *M*-derived Delay Lines. Lattices; Some Properties. Constant-resistance Lattices; All-pass Networks. Synthesis of Maximally Flat Delay Lines. MODERN REALIZATION METHODS FOR TWO-TERMINAL-PAIR NETWORKS. Types of Two-terminal-pair Networks; Realizability Conditions. Darlington's Synthesis Techniques; Complementary Impedances. Modern Lattice Synthesis Procedures. *LC*-ladder Networks. *RC*-ladder Networks. *RC* Networks in General. Synthesis Using Active Elements. The Scott-Blanchard Iterative Synthesis. RATIONAL-FRACTION APPROXIMATIONS. The Approximation Problem. Approximations Using Orthogonal Polynomials; Padé Approximations. The Potential Analogy. The Potential Analogy: Theoretical Applications. Time Domain Approximations. Index.

WEINBERG—Network Analysis and Synthesis
By LOUIS WEINBERG, Conductron Corporation. *Elec. & Electron. Engg. Series.*
708 *pp.*, 6⅜ *x* 9¼, 456 *illus.* (1962).$19.50*c*
This text introduces some of the most modern techniques for solving problems—matrix theory, function theory, and linear graphs. The author discusses the work of the past (going back to Kirchhoff) and couples it with results now appearing in the scientific journals. Fundamental concepts are first presented clearly, and then utilized in a variety of the subsequent chapters, where the concepts are integrated in a discussion of significant problems. The text is written in a clear and lucid style and contains numerous illustrative examples.
CONTENTS—Preface. Introductory Network Concepts. Introductory Network Theory. The Geometry of Networks. Kirchhoff's "Third and Fourth Laws." Mathematics of Network Synthesis. The Positive Real Concept. Realizability Conditions on Network Functions: Networks with Ideal Transformers. Realizability Conditions on Networks without Transformers. Realization of Driving-point Functions: Two-element-kind Networks. Realization of General Driving-point Functions. Polynomials and Rational Functions Useful in the Approximation Problem. Realization of Transfer Functions. Practical Filter Design Made Easy: Handbook Tables of Element Values and Explicit Formulas. References. Index.

Machinery

FITZGERALD AND KINGSLEY—Electric Machinery, 2nd Ed.
The Dynamics and Statics of Electromechanical Energy Conversion
By A. E. FITZGERALD, Jackson & Moreland, Inc., and CHARLES KINGSLEY, JR., Massachusetts Institute of Technology. *Elec. & Electron. Engg. Series.*
580 *pp.*, 6 *x* 9, 267 *illus.* (1961)....$11.50*c*
Reorganized and rewritten to satisfy the rapidly changing pattern of engineering education. Electromechanical energy conversion is still the theme, with increased emphasis given to dynamic systems, however, the text is now divided into three parts: (1) discusses principles underlying electromechanical energy conversion; (2) deals with the idealized machine and leads to the dynamic equations for machine performance; and (3) proves that there is more to acknowledge of energy conversion than purely analytical detail.
CONTENTS—Preface. ELECTROMECHANICAL ENERGY CONVERSION. Basic Principles. Electromechanical-energy-conversion Principles. Basic Rotating Machines. THE IDEALIZED MACHINE. Theory of Ideal D-C Machines. Theory of Ideal Synchronous. Theory of Ideal Polyphase Induction Machines. THE REALISTIC MACHINE. Engineering Considerations Underlying Machine Application. D-C Machines. Synchronous Machines. Polyphase Induction Motors. Fractional-Horsepower A-C Motors. APPENDIX. The Per-Unit System. Normalized Solutions for Linear Second-Order Differential Equations. Voltages and Magnetic Fields in Distributed A-C Windings. Table of Constants and Conversion Factors.

ROSENBLATT AND FRIEDMAN—Direct and Alternating Current Machinery
By JACK ROSENBLATT and M. H. FRIEDMAN, both, Consulting Engineers and formerly on the staff of Pratt Institute Evening Division.
432 *pp.*, 6 *x* 9, 348 *illus.* (1963).....$9.00*c*
Emphasizes the characteristics, basic theory, and operation of transformers and rotating machinery. This text supplies complete information for those seeking a basic knowledge of the fields of automation, automatic control, industrial electronics, and servomechanisms. Liberally illustrated; includes excellent vector diagrams.
CONTENTS—1. Electromagnetic Induction. 2. Dynamo Construction. 3. Armature Windings. 4. Generator Characteristics. 5. Armature Reaction. 6. Parallel Operation of Generators. 7. Motors. 8. Starting Direct-current Motors. 9. Methods of Speed Control. 10. Dynamo Efficiency. 11. Special Machines. 12. Three-wire Systems. 13. Single-phase Transformer. 14. Transformer Connections and Special Trans-

formers. 15. Polyphase Induction Motor. 16. Alternators. 17. Polyphase Synchronous Motor and Parallel Operation of Alternators. 18. Single-phase Motors. Appendix. Index.

STILL AND SISKIND—Elements of Electrical Machine Design

By ALFRED STILL, formerly Purdue University, and CHARLES S. SISKIND, Purdue University. Third Edition.

445 *pp.*, 6 *x* 9, 198 *illus.* (1954)....$10.50*c*

The design principles of four basic types of machine are covered in detail: the d-c generator, a-c generator, induction motor, and transformer. Its objective is to aid all students of electrical engineering in understanding fundamental principles through their application to concrete designs of electrical machines.

CONTENTS—Introductory. Dynamo Electrical Machines, General Description and Principles. Armature Windings and Armature Design Principles. Commutation and Design of Commutation Poles. Tooth Reluctance and Armature Reaction—Design of Field Magnets and Windings. Losses, Ventilation, and Temperature Rise. Alternating-current Machinery—Synchronous Generators. Synchronous A-c Generators (continued). Synchronous A-c Generators (concluded). Polyphase Induction Motors—Design of Three-phase Motors. Polyphase Induction Motors. A-c Transformers. Mechanical Design of Electrical Machinery.

BAILEY AND GAULT—Alternating-current Machinery

By B. F. BAILEY and JAMES S. GAULT. *Elec. & Electron. Engg. Series.*

421 *pp.*, 6 *x* 9, 359 *illus.* (1951).....$9.95*c*

Includes study of transformers and the main types of synchronous and induction machines, both polyphase and single-phase. In addition to construction and theory of operation of each type, connections, applications, and methods of control are covered. Although the book is not intended as a design text, a few design formulas are included. Most of the material covered is suited to the needs of all-electrical engineering students.

CONTENTS—Preface. Transformers. Connections and Special Types. Synchronous Generator. Armature Windings. Magnetomotive Force. Alternator Theory. Parallel Operation. Synchronous Motors. Synchronous-motor Control and Application. Synchronous Converters. Converter Application—Other Conversion Equipment. Induction Motors. Induction-motor Computations. Design Variations. Control of Induction Motors. Single-phase Motors. Capacitor Motors. Commutator Types. Small Single-phase Motors. Selsyn Devices. Rotating-magnetic-field Theory. Rotor-bar Currents. Induction-motor Theory. Index.

LANGSDORF—Theory of Alternating-current Machinery

By ALEXANDER S. LANGSDORF, formerly Washington University. Second Edition.

666 *pp.*, 6 *x* 9, *illus.* (1955).....$10.75*c*

Covers the basic theory underlying the design and operating characteristics of all types of electromagnetic machines used in power applications as well as the fundamental principles of mercury-arc rectifiers and inverters. Includes a complete analysis of the subject of traveling waves of mmf and their application to the theory of alternator regulation as developed by Doherty and Nickel, original treatment of the synchronous motor from the standpoint of the two-reaction theory, original treatment of the analysis of the single-phase induction motor based upon the cross-field theory, and complete analysis of the theory of concatenated induction motors.

CONTENTS—Table of Symbols. Fundamental Principles of the Transformer. Transformer Constructions and Operation. Transformer Structure, Insulation, Heating and Load Stresses. Fundamental Principles of Rotating Machines. Fundamental Principles of Asynchronous Machines Basic Theory of Polyphase Induction Motors. Relations between Operating Parameters and Machine Dimensions. Operational Features of Polyphase Induction Machines. The Single-phase Induction Motor. The Synchronous Generator. The Synchronous Motor. Parallel Operation of Synchronous Generators. The Synchronous Converter. Phase and Frequency Converters. Commutator Motors. The Mercury-arc Rectifier. Problems. Index.

LAWRENCE AND RICHARDS—Principles of Alternating-current Machinery

By RALPH R. LAWRENCE, formerly Massachusetts Institute of Technology, and HENRY E. RICHARDS. Fourth Edition.

623 *pp.*, 6 *x* 9, 347 *illus.* (1953)....$10.75*c*

Gives a comprehensive analysis of the operation and characteristics of transformers, synchronous generators, synchronous motors, polyphase induction motors, single-phase induction motors, series motors, and repulsion motors. A somewhat less detailed discussion is given of the induction generator, the synchronous converter, and the mercury-arc rectifier. The treatment is highly analytical. It is designed to give the student a thorough understanding of how each machine works and the reasons for its special characteristics.

CONTENTS—Preface. Table of Symbols. Part I. Static Transformers. Part II. Synchronous Generators. Part III. Synchronous Motors. Part IV. Parallel Operation of Synchronous Generators. Part V. Polyphase Induction Motors. Part VI. Single-phase Induction Motors. Part VII. Series and Repulsion Motors. Part VIII. Synchronous Converters. Part IX. Mercury-arc Rectifiers. Index.

MUELLER—Alternating-current Machines

By GEORGE MUELLER, Robbins and Myers, Inc., Springfield, Ohio.

502 *pp.*, 6 *x* 9, 365 *illus.* (1952).....$9.50*c*

A text for electrical engineering majors specializing in power machines and circuits. The use of standard symbols prevails throughout the book. Emphasis is on design, and from this standpoint the book carries much information not otherwise included.

CONTENTS—Preface. Abbreviations and Symbols. Graphical Symbols. Construction Details and No-load Relations in Transformers. Relations in a Loaded Transformer. Parallel Operation of Transformers. Special Types of Transformers. Transformer Connections in Polyphase Systems. Polyphase Induction Motors. Speed Control of Induction Motors. Further Induction Machine Topics. Synchronous Generators. Synchronous Motors. Single-phase Motors. Synchronous Converters. Rectifiers. Appendix. Index.

SISKIND—Direct-current Machinery

By CHARLES S. SISKIND, Purdue University. *Elec. & Electron. Engg. Series.*

319 *pp.*, 6 *x* 9, 201 *illus.* (1952).....$7.25*c*

The subject matter progresses through the fundamental theories of generator and motor operation, the uses of auxiliary and control equipments, the numerous constructions and applications of present-day d-c machines and devices, and the development of many of the special machines now widely used. Each subject receives unified treatment, although considerable emphasis is placed on the differences and similarities of constructions, operating performance, and applications. Discussed in detail are special machines such as welders, Rototrols, amplidynes, and third-brush generators.

CONTENTS—The Dynamo—Principles and Construction. Armature Windings. Generator Principles. Motor Principles. Armature Reaction. Interpoles and Compensating Windings. Generator Characteristics. Generator Operation and Performance. Motor Characteristics. Control of Motors. Efficiency, Heating, and Rating of Dynamos. Special Machines, Circuits, and Applications. Commutation.

SISKIND—Electrical Machines
Direct and Alternating Current
By CHARLES S. SISKIND, Purdue University. Second Edition.
563 *pp.*, 6 *x* 9, 345 *illus.* (1959).....$8.00*c*
The new edition provides an up-to-date, two-semester text for electrical machinery courses and non-electrical engineering courses which prepare students for jobs in the power field. Discusses in detail practically all types of modern rotating energy converters as well as such associated static equipment as transformers, rectifiers, and manually and automatically operated electrical control systems. Text deals with fundamentals only; these will enable the student to understand special equipment which is a modification of, not a departure from, a fundamental type.
CONTENTS—Introduction. Electrical Machinery Generalizations. Part I—D-C Machines. D-C Generator and Motor Principles. D-C Dynamos, Construction, and Armature Windings. D-C Generator Characteristics. D-C Motor Characteristics. Efficiency, Rating, and Applications of Dynamos. Part II—A-C Machines. A-C Generators. Transformers. Polyphase Induction Motors. Single-phase Motors. Synchronous Motors. Converters and Rectifiers. Appendix A—Tables of Sines, Cosines, Tangents, and Cotangents. Appendix B—Table of Logarithms of Numbers. Visual Aids. Index. Answers.

SISKIND—Induction Motors
Single Phase and Polyphase
By CHARLES S. SISKIND, Purdue University.
385 *pp.*, 6 *x* 9, 183 *illus. plus tables* (1958) $7.50*c*
The book discusses in detail the principles, standards of operation, applications, control, and design of single-phase and polyphase induction motors. The treatment of single-phase and polyphase motors has not been separated (to imply that they are distinct) but has been carefully blended. Much attention is given to the *winding*—the "heart" of the motor—and the way it is installed, connected, reconnected, modified, and designed for many kinds of service. Attention is also given to motor design and control. The approach is completely practical, and mathematical analyses have been reduced to a minimum.
CONTENTS—Preface. Polyphase Induction-motor Principles. Single-phase Induction-motor Principles. Polyphase Windings and Connections. Single-phase Windings and Connections. Polyphase Winding Changes. Multispeed-motor Windings. Fractional-slot Windings for Polyphase Motors. Starting and Control of Single-phase Motors. Starting and Braking of Polyphase Motors. Speed Control of Polyphase Motors. Winding Calculations for Polyphase Motors. Characteristics and Applications of Polyphase Motors. Visual Aids. Index.

ANNETT—Electrical Machinery
By F. A. ANNETT, *Power*. Third Edition.
449 *pp.*, 5½ *x* 8 (1950).....$9.00*iL*
Makes installing, operating, and maintaining electrical machinery easier for the practical man. Presents laws of magnetism and electricity by associating them with electrical machinery that electricians and operating engineers deal with in their daily work.
CONTENTS—Magnets and Magnetism. Fundamentals of the Electric Circuit. Ohm's Law, Series and Parallel Circuits. Energy, Work, and Power. Complex Circuits and Effect of Internal Resistance. Electrical Instruments. Methods of Measuring Resistance. Fundamental Principles of Dynamo-electric Machinery. Direct-current Machinery Construction. Inductance and Commutation. Types of Direct-current Generators. Direct-current Generator Characteristics. Losses in Direct-current Machinery. Direct-current Motors. Locating Position of Brushes on Commutator. Three-wire Systems and How They May Be Obtained. Direct-current Generators in Parallel. Fundamental Principles of Alternating Current. Measurement and Addition of Alternating Voltages and Current. Two-phase and Three-phase Circuits. Operating Alternators in Parallel. Kilowatts, Kilovolt-amperes, and Power Factors. Transformers. Alternating-current Motors. Starting Alternating-current Motors. Electrons and Electron Tubes. Electronic Rectifiers. D-C Motor Speed Control. Flame-failure Protection and Smoke-density Indicators.

ANNETT—Elevators
Electric and Electrohydraulic Elevators, Escalators, Moving Sidewalks and Ramps
By F. A. ANNETT, Contributing Editor, *Power*. Third Edition.
388 *pp.*, 6 *x* 9, *illus.* (1960).....$13.50*i*
Presents a comprehensive and practical treatment of vertical-transportation equipment as used in office buildings, hotels, apartment houses, private homes, department stores, railway stations, garages, industrial plants, and other buildings. Provides a useful and authoritative source of information for electrical workers and mechanics interested in the construction, operation, and maintenance of vertical-transportation equipment, for elevator maintenance men and operating engineers, and for contractors and employees doing elevator repair work. This edition complies with the 1955 American Standard Code for Elevators, Dumbwaiters and Escalators, and also contains information of such devices as manlifts, screwlifts, freight elevators, garage automatic-parking elevators, home elevators, and stairlifts.
CONTENTS—Types of Machines—Direct Current and Alternating Current. Methods of Roping and Their Effects on Loading of Ropes and Bearings. Overspeed Governors and Car and Counterweight Safeties. Brakes, Their Care and Adjustment. Direct-current Semimagnetic Controllers. Two-speed Direct-current Motor Controllers. Direct-current Traction-machine Rheostatic Controllers. Rectifiers Used with Alternating-current Motor Controllers. Unit Multivoltage Signal Control with Microleveling. Automatic Dispatching of Passenger Elevators and Attendantless Operation. Elevator-door Operating Equipment. Signal Systems. Locating Faults in the Mechanical Equipment. Locating Faults in Direct-current Motors and Controllers. Locating Faults in Alternating Current Motors and Controllers. Lubrication. Ropes. Their Construction, Inspection, and Care. Electrohydraulic Elevators. Electrohydraulic Elevator Controls. Escalators and Moving Sidewalks.

BRAYMER AND ROE—Rewinding Small Motors
By DANIEL H. BRAYMER; and A. C. ROE, Westinghouse Electric Corporation. Third Edition.
412 *pp.*, 6 *x* 9, *illus.* (1949).....$9.50*vL*
Includes in detail the materials, methods, and processes for rewinding small motors. It contains photographs and winding diagrams for clarification of the material, provides the repairman with practical information, and gives the engineer basic data on various windings, enabling him to check the drawing and make the parts of the various types of windings. This volume is at the same time an excellent text for students. New material added includes: Descriptions of the installation of new types of windings; data on new silicons and glass insulation materials; use of Formex type and glass-insulated wire; how to increase ratings by rebuilding to withstand higher temperatures; insulation of the overlapped type of winding; use of round end or round nose coils in A-C stator windings.

DUDLEY AND HENDERSON—Connecting Induction Motors
By A. M. DUDLEY and SAMUEL F. HENDERSON, Westinghouse Electric Corp. Fourth Edition.
425 *pp.*, 6 *x* 9, 433 *illus.* (1960)....$13.50*i*
Covers virtually every problem you will run across in installing, operating, and repairing all

types of induction motors. Connection diagrams for commonly used windings, both single and two-speed, are shown and modern standardized terminal identification for single as well as polyphase motors are given. Includes information on part winding starting of polyphase motors. Hundreds of how-to procedures, exact data, simplifications, trouble-shooting aids, and short-cuts.

CONTENTS—What the Winding on an Induction Motor Accomplishes. The Rotating Magnetic Field. Types of Windings. Rotor Windings. Single-phase Windings. Chorded Windings or the Effect of Coil Throw on the Magnetic Field. Distribution Factor and the Uses That Are Made of It in Winding Stators of Induction Motors. Effect of Voltage on Windings and Possibility of Connecting a Winding for More Than One Voltage. Part-winding Starting the Number of Phases Affects the Windings and the Result of Changing Voltage and Phase at the Same Time. The Number of Poles and the RPM and the Possibility of Varying Them with the Same Winding. Reconnecting Old Windings for New Conditions. How to Figure a New Polyphase Winding. Single-phase Connections. Standard Group Diagrams for Single Speed. Lap Windings with Unequal Coil Groupings. Multispeed Polyphase Motors. Wave Diagrams. Locating Faults in Induction Motor Windings. What the Information on the Nameplate Means.

LIBBY—Motor Selection and Application

By CHARLES C. LIBBY, Ideal Electric and Manufacturing Co., Mansfield, Ohio.

508 *pp.*, 6 *x* 9, 220 *illus.* (1960) $13.50*i*

Organizes, condenses, and simplifies a wealth of information to help you effectively select and apply electrical motors for industrial service. Clearly explains motor selection in terms of load characteristics, service requirements, space limitations, duty cycle requirements, and safety. Data includes the industrially accepted standards of ASA, AIEE, and NEMA. Contains many tables and charts showing limiting factors and alternate possibilities.

CONTENTS—Operating Principles of Induction Motors. Induction-motor Performance Characteristics. Induction-motor Temperature and Heat Dissipation. Ratings, Frame Sizes, and Windings of Induction Motors. Selection of Induction-motor Rating and Design. Protective Enclosures and Atmospheric Contaminants. Motor Bearings, Insulation, and Mechanical Modifications. Full-voltage and Reduced-current Starting Methods. Synchronous Motors. D-C Motors. Appendix. Index.

STAFFORD—Troubles of Electrical Equipment

Their Symptoms, Causes, and Remedy

By H. E. STAFFORD, Consulting Engineer. Third edition.

455 *pp.*, 6 *x* 9, 360 *illus.*, 25 *tables* (1947) $10.00*iL*

Provides detailed information on present-day equipment and older equipment no longer manufactured but still in service.

VEINOTT—Fractional Horsepower Electric Motors

By CYRIL G. VEINOTT, Reliance Electric and Engineering Company, Cleveland. Second Edition.

572 *pp.*, 6 *x* 9, *illus.* (1948) $12.50*v*

Contains detailed information on how to repair, maintain, install, apply, inspect, sell, test, manufacture, and design fractional horsepower motors according to standards set by the ASA, NEMA, and the AIEE.

CONTENTS—The Story behind the Nameplate. What Makes an Induction Motor Run. Single-phase Induction Motor Windings and Connections. Split-phase Induction Motors. Capacitor-start Motors. Two-value Capacitor Motors. Permanent-split Capacitor Motors. Capacitor Motors for Unit Heaters, Shaft-mounted Fans, and Blowers. Two-speed Tapped-winding Capacitor Motors. Repulsion-start Induction Motors. Repulsion and Repulsion Induction Motors. Universal Motors. Shaded-pole Induction Motors and Fans. Polyphase Induction Motors. Synchronous Motors. Position-indicating and Synchronous-drive Systems. Direct-current Motors. Constructional Features Common to More than One Type. Testing Fractional Horsepower Motors. Selecting a Motor for the Job.

Electrical Power Systems and Transmission

BEAN, CHACKAN, MOORE, AND WENTZ—Transformers

For the Electric Power Industry

By R. L. BEAN, NICHOLAS CHACKAN, JR., H. R. MOORE, and E. C. WENTZ, Westinghouse Electric Corporation. *Westinghouse-McGraw-Hill Books for Industry.*

404 *pp.*, 6 *x* 9, 277 *illus.* (1959) $14.00*i*

An over-all guide to electric power transformers which gives practical understanding of their design, construction, selection, operation, and maintenance. It is fully illustrated and annotated, and also contains operational and design data. Describes types of transformers, their parts, performance characteristics, and auxiliary and protective equipment. Also discusses distribution systems; relay operation; lightning protection; oil deterioration; the economics of transformer design and application; heat dissipation; thermal calculations; etc.

CONTENTS—What a Transformer Is. The Uses of a Transformer. Insulating the Windings. The Magnetic Circuit. Resistance, Reactance, Impedance, and Regulation. Load Losses. Mechanical Forces and Strength. Transformer Temperature. Loading, Rating, and Life. Maintenance, Protection, and Detection of Faults. Transformer Connections. Instrument Transformers. Transformer Testing. Economics of Transformer Design and Application. Shipping Considerations.

BEEMAN—Industrial Power Systems Handbook

By DONALD L. BEEMAN, General Electric Company, Schenectady, New York.

948 *pp.*, 6 *x* 9, *illus.* (1955) $18.50*hb*

Outlines industrial power system practices in a simple, practical manner, using many examples and a wide range of design data. Industrial and commercial installations are thoroughly covered.

CONTENTS—Short-circuit-current Calculating Procedures. Symmetrical Components as Applied to Short-circuit Current Calculation on Three-phase Systems. Selection of A-C Short-circuit Protective Devices and Circuit Equipment. Voltage—Standard Ratings. Allowable Variations, Reduction of Variations, Calculation of Drops. System Overvoltages—Causes and Protective Measures. System Grounding. Equipment Grounding. Power-factor Improvement. System Overcurrent Protection. Selection of System Voltages. Load-center Power Systems and Circuit Arrangements. Secondary Distribution Systems. Primary Distribution Systems. Power Systems for Commercial Buildings. Modernization and Expansion of Existing Power Systems. Steam and Power Generation. Load and Cost-estimating Data. Appendix. Index.

CAYWOOD—Electric Utility Rate Economics

By RUSSELL E. CAYWOOD, West Penn Power Company.

248 *pp.*, 6 *x* 9, 45 *illus.* (1956) $10.00*i*

Thorough, practical guide to the many economic and technical factors involved in electric utility rate making. Gives fundamentals of electric utility business as a foundation for a discussion of such topics as the theoretical basis of the price structure and the tariff, engineering economics and cost analysis, the rate department, earnings, utility plant, depreciation, and rate of return. Detailed methods and approaches, plus an extensive use of charts, diagrams, tables, and check lists, make the book a day-to-day source of answers to problems in rate making.

GIBBS—Transformer Principles and Practice
By J. B. GIBBS, Westinghouse Electric Corporation. *Westinghouse-McGraw-Hill Engineering Books for Industry*. Second Edition.
268 *pp.*, 5½ *x* 8 *illus.* (1950).....$9.50*i*
This book deals with all aspects of the construction and use of transformers.
CONTENTS—Single-phase and Three-phase Transformers. Coils and Cores. Transformer Cooling. Temperature Indicators. Ratio Adjustment. Oil and Askarel. Maintaining Oil Quality. Mechanical Forces in Transformers. Transformer Insulation and Lightning Protection. Polarity. Usual Transformer Connections. Parallel Operation of Transformers. Phase Transformation. Special Applications of Standard Transformers. Auto-transformers. Transformation of Auto-transformers. Constant Current Transformers. Instrument Transformers. Current Limiting Reactors. Transformer Testing. Care and Operation of Transformers. New Transformers or Old? Transformer Calculations.

LOVELL—Generating Stations
By A. H. LOVELL, University of Michigan. Fourth Edition.
431 *pp.*, 6 *x* 9, 256 *illus.* (1951)....$11.50*c*
Designed for senior-graduate electrical engineering students and for operators and practicing engineers who desire to analyze the problems of power plant design and the associated transmissions from an economic point of view. Emphasis is placed on the vital interrelation of the mechanical and electrical elements in the design so that the engineer in each field will appreciate the possibilities and limitations of the adjoining field.
CONTENTS—Elementary Principles of Corporate Finance. Cost of Stations. Economic Decay. Power-plant Load Curves. Economic Conductor Section—Power Distribution Systems. Power Plant Location. Bus Systems and Current-limiting Reactors. Generating Station Auxiliaries. Circuit Breakers and Their Applications. Introduction to Single-phase Short Circuits. Protective Relays and Their Applications. Transmission Lines with Synchronous Condensers. Index.

McPARTLAND—Electrical System Design
By J. F. MCPARTLAND and Editors of *Electrical Construction and Maintenance*. Second Edition.
208 *pp.*, 8½ *x* 11, 200 *illus.* (1960)..$9.50*iL*
Theory and methods for designing complete electrical systems are presented in this book, including modern procedures and newer requirements of the National Electrical Code. In clear, logical fashion it explains how to construct the network of branch circuits and feeders back from the outlets to load devices—to the point of energy supply to the system. Step-by-step procedures are given for selecting designs that fulfill power requirements; for implementing them with equipment and hardware; and for incorporating the resulting system within the physical dimensions of a building. The book also recognizes substantial spare capacity as an essential element of modern electric design.
CONTENTS—General Considerations for Power, Light, and Heat. Basic Data on Types and Layouts of Branch Circuits. Types of Electrical Distribution Systems. Design Data on Service Entrance and Power Supply Arrangements. Residential Design. Lighting Systems. Heating and Air Conditioning. Signals and Communication Systems. Appendix of Data and Tables on National Electrical Code, Motor and Power Load Data, etc.

McPARTLAND AND NOVAK—Electrical Design Details
By J. F. MCPARTLAND and W. J. NOVAK, both *Electrical Construction and Maintenance*.
231 *pp.*, 8½ *x* 11, 487 *illus.* (1960)..$9.00*iL*
A comprehensive design file of electrical wiring diagrams, schematics, and detail drawings of actual electrical installations in operation in the United States. It illustrates and explains such important features as wiring, circuit layouts, equipment installations, and construction details. Modern electrical systems for light, heat, and power are covered. Each diagram is accompanied by explanatory information which pinpoints the distinct advantages and significance of the specific technique or method. All data in the book is presented in full conformity with the National Electrical Code, and important aspects of the Code are discussed.
CONTENTS—I. INDUSTRIAL PLANTS. Distribution Systems, Load Centers, Wireways, Mounting, Controls, Lighting, and Other Details. II. COMMERCIAL BUILDINGS. Systems for Office Buildings, Schools, Shopping Centers, Streets and Highways, and Others. III. RESIDENTIAL OCCUPANCIES. Home, Apartment Building, Hotel, and Farm Systems, Heating and Air Conditioning, Fire Alarms, TV Antennas, Lighting, and Other Details.

ELECTRICAL SYSTEMS LIBRARY $17.50*i*
McPartland—Electrical Systems Design, 2 Ed.
McPartland and Novak—Electrical Design Details

SKROTZKI—Electric Generation
Hydro, Diesel, and Gas-Turbine Stations
Edited by BERNHARDT G. A. SKROTZKI, *Power* Magazine. Contributors: F. S. BENSON, Pacific Gas and Elec. Co., G. C. BOYER, Universal Engineering Co., Inc., and V. A. THIEMANN, Ebasco Services, Inc.
458 *pp.*, 6 *x* 9, 292 *illus.* (1956).....$8.50*i*
Deals with central stations other than steam-electric, describing their fundamentals, their distinctive equipment and operations, and their part in the whole electric supply system. You see how various types of hydraulic turbines and gas turbines work, how they are arranged and controlled. Operation, arrangements, and control of internal-combustion engines are made plain, along with switching equipment, transformers, voltage regulators, etc.
CONTENTS—Water Power. Dams and Hydraulic Structures. Water Turbines. Hydraulic-turbine Generators and Switching. Hydroelectric Stations. Internal-combustion in Engines. Internal-combustion-engine Power Plants. Gas Turbines.

SKROTZKI—Electric Transmission and Distribution
Edited by BERNHARDT G. A. SKROTZKI, *Power* Magazine. Contributors: E. M. ADKINS, Jersey Central Power and Light Company, F. S. BENSON, Pacific Gas and Electric Company, and E. L. MICHELSON, Commonwealth Edison Company.
448 *pp.*, 6 *x* 9, 291 *illus.* (1954)....$11.00*i*
Describes simply and clearly the equipment used in transmission and distribution of electric energy from generating station to consumer, including overhead and underground circuits, high- and low-voltage circuits, protection against short circuits and lightning, and street lighting. Explains actual layout of equipment and what it does in the utility system.
CONTENTS—Electrical Theory. Transmission Terminal Facilities. Transmission Lines. Distribution Systems—Mechanical Arrangements. Distribution Systems—Primary and Secondary. Distribution Systems—Capacitors and Transformers. Distribution Systems—Protection. Street Lighting. Planning and Load Characteristics. Auxiliaries.

STEVENSON—Elements of Power System Analysis
By WILLIAM D. STEVENSON, JR., North Carolina State College. *Elec. & Electron. Engg. Series*. Second Edition.
466 *pp.*, 6 *x* 9, 213 *illus.* (1962).....$9.75*c*
The purpose of this book is to present the more important problems encountered by engineers in the electric utility industry in a

teachable form that is theoretically sound and adequately developed for a senior or introductory graduate course. The major changes made in this new edition have been dictated by the wide adoption of digital computers to solve power system problems, many of which were too complicated economically for mathematical solution prior to the availability of large, high-speed computers.

CONTENTS—Preface. General Background. Inductance of Transmission Lines. Capacitance of Transmission Lines. Resistance and Skin Effect. Current and Voltage Relations on a Transmission Line. Generalized Circuit Constants. Circle Diagrams. Representation of Power Systems. Network Equations and Solutions. Load-flow Studies. Economic Operation of Power Systems. Symmetrical Three-phase Faults on Synchronous Machines. Symmetrical Components. Unsymmetrical Faults. Power System Stability. Appendix. Index.

TARBOUX—Electric Power Equipment

By J. G. TARBOUX. Third Edition.

493 *pp.*, 5¼ *x* 8¼, 363 *illus.* (1946) . $11.00*c*

Gives electrical engineering students a general knowledge of the details, operation, and application of some of the more common types of electric power equipment, in order that they may have a bird's-eye view of the entire field of commercial equipment now in use.

CONTENTS—General Introduction. Types of Power Plants. Load Graphs and Their Significance. Generating Equipment. Synchronous Generator Excitation. Electrical Power-plant Circuit Layouts. Transformers. Transformer Connections. Switchboards and Switchboard Layouts. Switching Equipment. Switching and Control Devices. Meters and Measurements. Short-circuit Currents. Calculation of Short-circuit Currents. Transmission-line Calculation. Transmission-line Installation. Protection of Electrical Systems. Transmission-line Disturbances and Protection. Substations. Distribution Systems. Economics of Electric Service. Index.

VENNARD—The Electric Power Business

By EDWIN VENNARD, Edison Electric Institute.

288 *pp.*, 5⅜ *x* 8, 158 *illus.* (1962) $6.00*i*

This book describes and discusses the entire scope of the power business in a simple, interesting and understandable manner. Its aim is to present the basic facts and the economic principles in a way which will be useful to all employees in the industry, whether on the management or engineering side. The book is well suited for orientation and employee training programs and serves as a valuable self study tool.

CONTENTS—Preface. The Growth of an Industry. Trade Terms. Edison Power Company. Regulation. Economic Trends and Their Effect on the Power Company. Forecasting. Getting New Business—Selling. The Nature of Electrical Loads. Costs and Pricing. The Demand Charge and Changing Rates. Power Pooling and Energy Sources. Index.

WAGNER AND EVANS—Symmetrical Components

As Applied to the Analysis of Unbalanced Electrical Circuits

By C. F. WAGNER and R. D. EVANS, Westinghouse Electric Corporation. With an introduction by CHARLES FORTESCUE.

437 *pp.*, 6 *x* 9, 218 *illus.* (1933) $10.75*c*

Presents the fundamentals of the method now generally accepted for calculating problems associated with unbalanced short circuits on power systems. Detailed consideration is given to the determination of apparatus constants required for this method.

CONTENTS—Introduction and Historical Development. Fundamental Principles. Calculation of Unbalanced Faults. Illustration of Unbalanced Fault Calculations. Constants of Synchronous Machines. Constants of Transformers. Constants of Short Transmission Lines without Ground Wires. Constants of Short Transmission Lines with Ground Wires. Constants of Long Transmission Lines. Constants of Cables. Power System Voltages and Currents under Fault Conditions. Simultaneous Faults. Determination of Sequence Quantities from Phase Quantities. Measurement of Sequence Voltages and Currents. Measurement of Power Quantities on Polyphase Circuits. Multiphase Systems. Induction Motors. Unsymmetrical Systems and Phase Balancers. Appendixes: I. Notation. II. General Formulas. III. Apparatus Constants. IV. Transmission Line Constants. V. Cable Constants. VI. Equivalent Networks. VII. Characteristics of Conductors. VIII. Exponential Functions. Index.

Plasma Physics

UMAN—Introduction to Plasma Physics

By MARTIN A. UMAN, Univ. of Arizona.

In Press

An advanced text for engineering or physics students. The physical and mathematical concepts of all branches of plasma physics are covered. Applications are included in such areas as radio propagation, astrophysics, magnetohydrodynamics, power generation, microwave application, space vehicle propulsion, controlled thermonuclear fusion processes and gas discharge devices. Specifically prepared for the engineering student who does not have a strong physics background, all necessary advanced topics in physics are covered in the text.

Illumination

AMICK—Fluorescent Lighting Manual

By CHARLES L. AMICK, Day-Brite Lighting, Inc. Third Edition.

400 *pp.*, 6 *x* 9, 244 *illus.* (1961) $13.00*i*

Covers essential details of lamp sizes and ratings, basic principles of operation, auxiliary equipment, correct installation, analysis and correction of service problems, selection of lamp fixtures, designing general and supplementary lighting systems. The third edition of this book includes material on the newest fluorescent lighting fixtures and arrangements of all types. A large number of special topics are also discussed—operating characteristics of slimline and rapid-start ballasts, properties of plastics used for lighting, new glare evaluation concepts, comfort data, tables for computing coefficients of utilization, and data for estimating room-surface. Tabulations of new research findings on good lighting are included.

CONTENTS—The Fluorescent Lamp. Auxiliary Equipment. Operating Characteristics. Installation Hints. Service Suggestions. Luminaire Selection. Fluorescent Lighting Design. Color Quality. Fluorescent Applications. Lighting Economics.

BARROWS—Light, Photometry, and Illuminating Engineering

By WILLIAM E. BARROWS, formerly University of Maine. Third Edition.

415 *pp.*, 6 *x* 9, 279 *illus.* (1951) $9.50*c*

A text for electrical engineering students and for the practicing engineer. It includes data on the various types of lamps, illumination levels, utilization factors of luminaires and design data, together with the method of procedure in applying these data to the design of lighting installations. Problems, illustrations, descriptions of installations, and practice are included.

CONTENTS—Light and Vision. Photometric Standards, Units, and Nomenclature. Sources of Light, Gas, Vapor, and Fluorescent Lamps. Principles of Photometry and Photometers. Photometric Measurements and Illumination Surveys. Light-flux Calculations and Spherical Photometry. Principles of Interior Lighting. Illumination Calculations and Design. Light Control and Application. Interior Lighting Practice. Lighting for Sports and Recreation. Principles of Street and Highway Lighting. Lighting Streets, Highways, and Airways. Problems. Index.

BOAST—Illumination Engineering

By WARREN B. BOAST, Iowa State College. Second Edition.

340 *pp.*, 6 *x* 9, 161 *illus.* (1953)..... $8.50*c*

Treats the fundamentals of illumination terminology, illuminating devices and their engineering applications. It covers in a rigorous manner the spectral and spatial interrelationships among the various entities at the source and receiver surfaces, and treats in detail the engineering methods of design of both interior and exterior illumination systems.

CONTENTS—Preface. The Spectroradiometric Function. The Luminosity Function. The Illumination System. Entities in the Illumination System and Their Units. Measurement of Illumination. Geometric Graphs and Their Application. Determination of Illumination from Surface and Line Sources. Absorption, Reflection, and Transmission of Luminous Flux. Electrical Light Sources and Their Operating Characteristics. Illumination Standards. Lumen Method of Design of Interior Lighting Systems Using Commercial Luminaires. Illumination and Brightness Design by the Inter-reflection Method. Luminous Architectural Elements. Testing of Illumination Systems. Color Specifications. Design of Floodlighting Systems. Design of Street-lighting Systems. Ultraviolet and Infrared Sources and Applications. Wiring. Appendix. Index.

Electronic Engineering

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Prepared by a staff of specialists, Editor in Chief, WILLIAM D. COCKRELL, Advanced Engineering, Specialty Control Department, General Electric Company.
1376 *pp.*, 6 *x* 9, 969 *illus.*, 149 *tables* (1958).....$22.50*hb*
Expert aid on all phases of industrial electronics and control is at your fingertips in this master handbook for design and control engineers and practical technicians. Coverage of present electronic practice extends from Geiger counters to multi-phase power rectifiers with extensive coverage of electronic switches, automation, and process control. Parallel discussions of alternative and auxiliary means (pneumatic, hydraulic, etc.) are included. Over 100 specialists from more than a score of companies and research centers present facts and data to make this the most useful single handbook in its field. Throughout, it stresses applications and the *user's needs* instead of highly specialized design information.
CONTENTS—Fundamentals. Control Elements. Power Supplies, Constant Potential. Control Circuits. Circuit Applications. Instruments and Computers. Equipment Mechanical Design. User's Requirements. Letters Patent in the United States. Technical Information Sources.

Introductory and General

CARSON—Principles of Applied Electronics

By RALPH S. CARSON, Indiana Technical College.
485 *pp.*, 6 *x* 9, 431 *illus.* (1961)....$9.95*t*†
A modern, introductory text on electronic circuits and applications that provides an integrated discussion of the principles which govern the operation of vacuum, gas, and semiconductor electron devices. Each subject is developed to the point necessary to illustrate the underlying principles and its advantages and disadvantages in certain applications. Vacuum, gas, and semiconductor electron devices are integrated according to types. First, the physical electronics phenomena of all three are compared; then vacuum, gas, and semiconductor diodes are discussed; then triodes. This arrangement aids the reader to be better able to distinguish when and how the various devices act alike or differently. A knowledge of trigonometry and basic electrical circuits is assumed.
CONTENTS—Introduction. Fundamentals of Physical Electronics-Electron Emission. Semiconductor Electronics. Gaseous Conduction. Two-element Devices. Three-element Devices. Multi-element Devices. D-c Circuits of Electronic Devices. Amplifier Circuits. Electronic Power Converters. Oscillation. Nonlinearity Products. Supplementary Electronic Devices. Communication Systems. Communication Systems Continued. Electronic Control Systems. APPENDIX A, B, C.

CRUFT LABORATORY, WAR TRAINING STAFF—Electronic Circuits and Tubes

Prepared by the War Training Staff of Cruft Laboratory, Harvard University, under the Editorship of HARRY E. CLIFFORD and ALEXANDER H. WING, University of Florida.
948 *pp.*, 6 *x* 9, *illus.* (1947).....$12.50*c*
Presents the basic theory of electronic tubes and circuits. The emphasis is on applications to communication, engineering and electronic control.
CONTENTS—Alternating Current Theory: Varying Voltages and Currents; Ideal Circuit Elements; Series Circuits; Parallel Circuits. Circuit Response; Response of Simple LR and CR Units; Series Resonance; Parallel Resonance. Circuit Elements. Measurements of Circuit Elements. Networks and Impedance Matching. Transients. Coupled Circuits; Transient Oscillations; Forced Oscillations. Filters. Fourier Analysis. Electron Emission and the Diode Multi-element Tubes. Cathode-ray Tubes. Amplifiers—Class A and Class B. Power Tubes. Oscillators. Gas-filled Tubes. Rectifiers and Power Supplies. Signal Analysis: Fourier Analysis of Symmetrical Pulse; Distortion of Signal Going through a Transducer. Principles of Modulation. Methods of Modulation. Methods of Amplitude Modulation; Methods of Angle Modulation. Detection: Large-signal (Linear) Diode Detection; Small-signal (Square-law) Diode Detection; Detection in Multi-element Tubes; Detection of Frequency-modulated Signals. Test Instruments. Vacuum-tube Voltmeters. Radio Receivers: Types Not Employing Frequency Conversion; Superheterodyne Receivers; Short-wave Receivers; Disturbance to Radio Reception; Receiver Measurements and Servicing. Timing Circuits. Appendixes.

CUTLER—Electronic Circuit Analysis

Volume I: Passive Networks
By PHILIP CUTLER, North American Aviation and Orange Coast College.
480 *pp.*, 6 *x* 9, 400 *illus.* (1960).....$8.00*c*
The first book on this subject written especially for engineering technician courses. Provides a thorough and comprehensive presentation of the theory, analysis, and application of passive networks for the first course at the intermediate level. Gives students a solid foundation in the basic concepts and techniques essential to mastering problems of analysis, design, and maintenance of electronic equipment. The material is arranged so that the reader first develops analytic tools such as rigorous notation, network theorems and Kirchhoff's laws. These tools are amplified and extended to a-c circuits. Then the transient case is considered. This background enables the reader to analyze pulse forming and wave shaping circuits with a great deal of insight. A companion volume is planned; it will deal with active networks.
CONTENTS—Network Analysis and Theorems. A-C Circuit Analysis. Transient Analysis. Transformers. Graphic Analysis of Vacuum Tubes.

EASTMAN—Fundamentals of Vacuum Tubes

By AUSTIN V. EASTMAN, University of Washington. *Elec. & Electron. Engg. Series.* Third Edition.
583 *pp.*, 6 *x* 9, *illus.* (1949).....$11.00*c*
Discusses at length the principal types of vacuum tubes. The laws underlying each are fully treated, and engineering analyses of the more important applications are presented. In the present edition the elementary yet thorough treatment has been retained in order to provide a text midway between the purely descriptive and the purely mathematical.
CONTENTS—BASIC CONCEPTS. Electronic Emission. Construction of Vacuum Tubes. High-vacuum Thermionic Tubes. Gas-filled Thermionic Tubes. Photosensitive Devices. Special Types of Tubes. APPLICATIONS AND CIRCUITS. Rectifiers. The Vacuum Tube as a Control Device. Audio-frequency Amplifiers. Radio-frequency Amplifiers. Oscillators. Modulators and Demodulators. APPENDIX. Definitions and Nomenclature. Fourier Analysis of a Repeating Function. Application of the Fourier Analysis to an Analytical Solution of Repeating Functions, the Equations of Which Are Known over Short Intervals.

HAPPELL AND HESSELBERTH—Engineering Electronics

By G. E. HAPPELL and W. M. HESSELBERTH, Purdue University. *Elec. & Electron. Engg. Series.*

† *Textbook edition available at educational list price.*

508 *pp.*, 6 x 9, 475 *illus.* (1953).....$9.95*c*
Designed for electrical engineering students beginning the study of electronics. It aims to give a theoretical and practical treatment to electronics, which will serve as a basis for further detailed study or for everyday engineering applications in the non-specialized fields. The text covers an elementary approach to the physics of vacuum tubes, with a chapter on concepts important in vacuum-tube circuits analysis and detailed studies of voltage amplifiers. Nearly all chapters are provided with sets of problems and questions.
CONTENTS—Electron Ballistics. Emission. The High-vacuum Diode. The Vacuum Triode and Other Multi-element Tubes. Some Applications of Vacuum Tubes. Concepts Useful in Vacuum-tube-circuit Analysis. Power Amplifiers Using Tuned Loads. Feedback Amplifiers. Oscillators. Modulation and Detection. Conduction through Gases. Rectifiers. Photoelectric Cells. Solid-state Electronics and Reactance Amplifiers. Appendixes.

HILL—Electronics in Engineering
By W. RYLAND HILL, University of Washington. *Elec. & Electron. Engg. Series.* Second Edition.
340 *pp.*, 6 x 9, 245 *illus.* (1961).....$8.95*c*
This text gives the reader a basic knowledge of electronics and encourages further pursuit of this subject by students not at present majoring in electrical engineering. Theory and design in industrial electronics are applied, but not to the exclusion of their practical applications by the engineer in his own field. Consequently, practical application is linked with theoretical analogy by broaching the subject from both angles and continuing from there on a central course. Difficult verbal description is avoided by employing a graphical picture with coordinated circuit diagrams and wave forms wherever feasible. The mathematical approach is usually accompanied by a graphical analysis and an actual computation using typical circuit values encountered in actual practice. The book has been modernized by strengthening circuit analysis, and by the addition of the semiconductor rectifier, the transistor, and semiconductor switching devices.
CONTENTS—Preface. Electrons, Ions, Photons and Holes. The Diode. Single-phase Rectifier Circuits. Grid Controlled Vacuum Tubes. The Transistor. Gas-filled Tubes. Solid-state Switching Devices. Photosensitive Devices. Practical Amplifier Circuits. Feedback. Resonance and Tuned Amplifiers. Oscillators. Amplitude Modulation and Demodulation. The Cathode-ray Oscilloscope. Transducers. The Operational Amplifier and Analog Computer. Appendix A: Average and Effective Value of a Sine Wave. Appendix B: Fourier Series Representation. Index.

LANGMUIR AND HERSHBERGER—Foundations of Future Electronics
Edited by DAVID B. LANGMUIR, Space Technology Laboratories, Inc., and W. D. HERSHBERGER, University of California, Los Angeles. *Univ. of Cal. Engg. & Sc. Exten. Series.*
528 *pp.*, 6 x 9, 183 *illus.* (1962)....$10.75*c*
This is a statewide series of lectures presented by the University of California. Each chapter is written by an outstanding authority in the field, toward the aim of introducing the working engineer and applied scientist to current thinking in those scientific areas believed to have the greatest impact on the electronics of the future, and to develop insight into the various aspects of this broad field.
CONTENTS—Preface. SOLID STATE PHYSICS. Molecular Engineering—*A. Von Hippel.* Paramagnetic and Nuclear Resonance—*W. D. Hershberger.* Ferromagnetism—*H. Suhl.* Masers—*N. Bleombergen.* Semiconductors—*J. W. Petersen.* Super-conductivity—*E. C. Crittenden.* PLASMA PHYSICS. Plasma Physics—*L. Tonks.* Controlled Fusion Research and Electronics—*E. W. Herold.* Magnetohydrodynamics—*B. D. Fried.* Power Conversion: Plasma Methods—*R. W. Pidd.* Power Conversion: Solid-State Devices—*Frank E. Jaumot, Jr.* ELECTRONS IN VACUUM. Applications of Electrons in Vacuum—*C. Susskind.* Generation of High-Frequency Energy—*L. M. Field.* THE ENVIRONMENT. Noise—*R. B. Muchmore.* Low-noise Devices—*H. Heffner.* The Channel in Electronic Systems—*E. C. Jordan.* Index.

MILLMAN AND SEELY—Electronics
By JACOB MILLMAN, Columbia University, and SAMUEL SEELY, Case Institute. *Elec. & Electron. Engg. Series.* Second Edition.
598 *pp.*, 6 x 9, 446 *illus.* (1951)....$10.50*c*
Physical electronics and engineering electronics are presented side by side. Wherever possible, the material is presented in a quantitative manner.
CONTENTS—Introduction. Motion of Charged Particles in Electric and Magnetic Fields. Applications of the Motion of Particles in Applied Fields. Electronic Phenomena in Metals. Statistical Electron Theory of Metals. Characteristics of Thermionic Cathodes. Diode Characteristics. The Kinetic Theory of Gases. Fundamental Processes in Gases. Electrical Discharges in Gases. Commercial Gas Tubes. Rectifiers. Filters for Rectifiers. Polyphase Rectifiers. Photoelectricity and Photoelectric Cells. Triode Characteristics. Triodes as Circuit Elements. Multielectrode Tubes. *Appendixes:* Probable Values of General Physical Constants. Conversion Factors. Periodic Table of the Elements. The MKS System. Definite Integrals of the Form. Poisson's Equation. Graphical Symbols for Tube Elements. Circuit Notation Conventions. Plate Characteristics of Receiving Type Tubes. Index.

OVERHAGE—The Age of Electronics
Edited by CARL F. J. OVERHAGE, Massachusetts Institute of Technology.
227 *pp.*, 6 x 9, 122 *illus.* (1962).....$7.95*i*
This is a collection of essays on the selected topics in the field of electronics: the origins in electromagnetic theory, communications, radar, the use of computers in scientific research, radio astronomy and radio telescopes, transistors, masers, and satellite relays. The most recent scientific and technological advances are described in a historical framework that illuminates the present and permits projection into the future. Contributors: Lloyd V. Berkner. Edward G. Bowen, Hendrik B. G. Casimir, Ivan A. Getting, John R. Pierce, William Shockley, Charles H. Townes, Stanislaw M. Ulam.
CONTENTS—Preface. Introduction. Maxwell, Hertz, and Lorentz, Communications. Radar. Electronic Computers and Scientific Research. Radio Astronomy and Radio Telescopes. Transistors. Masers. Satellite Relays. Index.

SEELY—Electronic Engineering
By SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.*
525 *pp.*, 6 x 9, *illus.* (1956).....$9.95*c*
A detailed discussion of a large variety of electronic circuits important in such diverse fields as radar, television, electronic control and instrumentation, and computers. The book begins with a general introduction to tubes and tube circuit principles, and then proceeds into a detailed consideration of the more important electron tube circuits. Emphasis is placed on the physical and mathematical analyses. This book will help develop a solid understanding of the techniques of analysis, the special features of the many circuits examined, and the means for combining circuits of different types in order to achieve required operational results.
CONTENTS—Characteristics of Electron Tubes. Vacuum Triodes as Circuit Elements. Basic Amplifier Principles. Untuned Potential Amplifiers. Feedback in Amplifiers. Electronic Computing Circuits. Special

Electronic Circuits. Oscillators. Heavily Biased Relaxation Circuits. Saw-tooth Sweep Generators. Special Sweep Generators. Rectifiers. Rectifier Filters and Regulators. Electronic Instruments. Solid-state Theory. Transistors as Circuit Elements.

SEELY—Radio Electronics

By SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.*

487 *pp.*, 6 *x* 9, 365 *illus.* (1956)....$8.50*cL*

Here is a discussion in considerable mathematical detail of the essential processes and circuits which are of importance in the field of radio communications. The book begins with a general discussion of the important methods of communication, and then expands in detail the more important aspects of the field. Emphasis is on the physical and mathematical analyses, so that the reader may gain an understanding of the fundamentals underlying the broad field of communication.

CONTENTS—Preface. Introduction to Communication Systems. Characteristics of Electron Tubes. Rectifiers and Filters. Vacuum Triodes as Circuit Elements. Basic Amplifier Principles. Untuned Potential Amplifiers. Special Amplifier Considerations. Untuned Power Amplifiers. Tuned Potential Amplifiers. Tuned Power Amplifiers. Oscillators. Amplitude Modulation. Demodulation. Frequency Modulation and Detection. Information Theory. APPENDIX A: Notes on General Network Analysis. B: Plate Characteristics of Vacuum Tubes. C: Characteristics of Transmitting Tubes. D: Table of Bessel Functions of the First Kind. Index.

SEELY—Electron-tube Circuits

By SAMUEL SEELY, Case Institute of Technology. *Elec. & Electron. Engg. Series.* Second Edition.

695 *pp.*, 6 *x* 9, 830 *illus.* (1958)....$11.50*cL*

Provides a broad background in electronic circuits, as preparation for work in radio and electronic engineering. It presents a clear analytical method in the study of electron-tube circuits, studies the various classes of circuits finding widespread application, and indicates with examples how circuits of various types are combined to achieve either one or a multiplicity of operations. In this edition, the treatment of the principles of feedback has been greatly expanded and there is new material on solid state electronics, the transistor, and the theory of transistor circuits of various types has been included. New problems have been added throughout.

CONTENTS—Preface. Characteristics of Electron Devices. Vacuum Triodes and Transistors as Circuit Elements. Basic Amplifier Principles. Untuned Potential Amplifiers. Feedback in Amplifiers. Rectifiers. Power Supplies. Electronic Computing Circuits. Special Electronic Circuits. Untuned Power Amplifiers. Tuned Potential Amplifiers. Tuned Power Amplifiers. Oscillators. Heavily Biased Relaxation Circuits. Saw-tooth Sweep Generators. Special Sweep Generators. Amplitude Modulation. Demodulation. Frequency Modulation and Detection. Electronic Instruments. Appendix A. Network Theorems. B. Plate Characteristics of Vacuum Tubes. C. Characteristics of Transmitting Tubes. D. Table of Bessel Functions of the First Kind. Index.

TERMAN—Electronic and Radio Engineering

By FREDERICK EMMONS TERMAN, Stanford University. *Elec. & Electron. Engg. Series.* Fourth Edition.

1078 *pp.*, 6 *x* 9, *illus.* (1955).....$15.50*t*†

Providing a thorough coverage combined with a presentation that allows the reader to study a particular topic without having to read the entire book, this work summarizes in easily understandable terms those principles and techniques which are the basic tools of the electronic and radio engineer.

CONTENTS—The Elements of a System of Radio Communication. CIRCUIT ELEMENTS AND CIRCUIT THEORY. Circuit Elements. Properties of Circuits with Lumped Constants. Transmission Lines. Waveguides and Cavity Resonators. ELECTRONIC ENGINEERING FUNDAMENTALS. Fundamental Properties of Electron Tubes. Electron Optics and Cathode-Ray Tubes. Voltage Amplifiers for Audio Frequencies. Voltage Amplifiers for Video Frequencies. Amplifier Distortion. Power Amplifiers, and Amplifier Systems. Negative Feedback in Amplifiers. Tuned Voltage Amplifiers. Tuned Power Amplifiers. Vacuum-Tube Oscillators. Amplitude Modulation. Detectors and Mixers. Frequency Modulation. Wave Shaping, Non-linear Waves, and Pulse Techniques. Microwave Tubes. Power for Operating Vacuum Tubes. Transistors and Related Semiconductor Devices. RADIO ENGINEERING AND RADIO SYSTEMS. Propagation of Radio Waves. Antennas. Radio Transmitters, Receivers, and Communication Systems. Television. Radar and Radio Aids to Navigation. Index.

HARMAN—Fundamentals of Electronic Motion

By WILLIS W. HARMAN, Stanford University. *Elec. & Electron. Engg. Series.*

319 *pp.*, 6 *x* 9, 258 *illus.* (1953)....$9.50*cL*

A theoretical, mathematical treatment of electron tube analysis, this text is written primarily for the user rather than the designer of electron tubes. It teaches the basic laws governing the motion of electrons and the means by which the collective effect of these motions appears as a tube coefficient such as in-put admittance or mutual conductance.

CONTENTS—Fields and Electrons. Motion in a Static Electric Field. Electron Properties and Sources. Motion in a Magnetic Field. Negative and Positive Space Charge. Motion in Time-varying Fields. Space-charge Waves and Velocity Modulation. Traveling-wave Amplification. Traveling-wave Magnetron Amplifiers and Oscillators. Relativistic Electrodynamics. Appendixes. Index.

Microwaves

ATWATER—Introduction to Microwave Theory

By HARRY A. ATWATER, Pennsylvania State University. *Elec. & Electron. Engg. Series.*

256 *pp.*, 6 *x* 9, 110 *illus.* (1962).....$8.75*c*

Here is a text that teaches the fundamentals underlying the major part of the entire field of modern microwave research and technology. The physical phenomena governing the behavior of microwave systems and components are developed from the point of view of the electromagnetic field in interaction with wave guiding structures and component materials. Wave propagation in waveguides, equivalent circuit methods for microwave systems, and the interactions of microwaves with solids are discussed at a mathematical level suitable for seniors and first-year graduate students in electrical engineering and physics.

CONTENTS—The Two Conductor Transmission Line. The Electromagnetic Field Equations. The Wave Equation and Its Solution in Waveguides. Discontinuities and Impedances in Waveguides. Microwave Resonators. Microwave Tubes I: Klystron and Magnetron. Microwave Tubes II: The Traveling Wave Tube. Magnetic Materials in Microwave Applications. Millimeter Waves. Appendixes.

BRONWELL AND BEAM—Theory and Application of Microwaves

By ARTHUR B. BRONWELL, Worcester Polytechnic Institute, and ROBERT E. BEAM, Northwestern University.

470 *pp.*, 6 *x* 9, 397 *illus.* (1947)....$10.00*c*

Presents underlying theory of microwave communication systems, together with description of modern microwave equipment. Fundamental electronic concepts are first introduced and then applied to the analysis of various types of microwave tubes. This is followed by a

† *Textbook edition available at educational list price.*

treatment of transmission-line equations, the use of impedance diagrams in solving transmission-line problems, and an extensive treatment of transmission-line networks.
CONTENTS—Introduction. Charges in Electric Fields. Current, Power, and Energy Relationships. The Physical Basis of Equivalent Circuits. Negative-grid Triode Oscillators and Amplifiers. Transit-time Oscillators. Magnetron Oscillators. Transmission-line Equations. Graphical Solution of Transmission-line Problems. Transmission-line Networks. Transmitting and Receiving Systems. Pulsed System—Radar. Maxwell's Equations. Propagation and Reflection of Plane Waves. Solution of Electromagnetic-field Problems. Wave Guides. Impedance Discontinuities in Guides—Resonators. Applications of Wave Guides and Resonators. Linear Antennas and Arrays. Impedance of Antennas. Other Radiating Systems. APPENDICES: Systems of Units. Electrical Properties of Materials. Formulas of Vector Analysis. Index.

COLLINS—Microwave Magnetrons
Edited by GEORGE B. COLLINS, University of Rochester. Volume 6—*MIT Rad. Lab. Series.*
769 *pp.*, 6 *x* 9, 553 *illus.* (1948).....$13.50*r*
This book covers quite completely the theoretical and practical aspects of multicavity magnetrons in the frequency range from 1000 to 24,000 Mc/sec and in the power output range from 10 watts to 3,000,000 watts. The circuit theory and electronics of this type of oscillator are discussed with special attention to the subjects of starting phenomena, electronic tuning, and stabilization of frequency.
CONTENTS—Introduction. Part I. Resonant Systems. The Unstrapped Resonant System. The Rising Sun System. The Strapped System. Output Circuits. Part II. Analysis of Operation. The Interaction of the Electrons and the Electromagnetic Field. The Space Charge as a Circuit Element. Transient Behavior. Noise. Part III. Design. Principles of Design. The Resonant System. The Cathode. The Magnetic Circuit. Part IV. Tuning and Stabilization. Mechanical Tuning. Electronic Tuning. Stabilization of Frequency. Construction. Measurements. Typical Magnetrons.

GHOSE—Microwave Circuit Theory and Analysis
By RABINDRA N. GHOSE, American Nucleonics Corporation. *Elec. & Electron. Engg. Series.*
432 *pp.*, 6 *x* 9, 172 *illus.* (1963)....$12.00*c*
Since there appears to be a gap between physical and mathematical developments in the microwave field, the object of the text is to bridge this gap and present some basic principles of microwave theory and techniques. With Maxwell's equations as a starting point, the analytical treatments for many new microwave techniques which often lead to the design of some microwave components are incorporated in this text. Particularly important is the incorporation of the advancements in microwave technology which occurred during and following World War II.
CONTENTS—Introduction and Early History. Mathematical Review. Fundamental Properties of the Electromagnetic Field. Microwave Transmission Systems. Transmission Lines. Waves and Waveguides. Dielectric Waveguides and Surface-wave Transmission Lines. Resonators. Matrix Representation of Microwave Junctions. Microwave Filters. Discontinuities in Transmission Lines. Nonuniform Transmission Lines. Nonreciprocal Networks in Microwave Circuits. Appendix: Dielectrics in Microwave Circuit Elements. Index.

GINZTON—Microwave Measurements
By EDWARD L. GINZTON, Stanford University. *Int'l Series in Pure and App. Physics.*
494 *pp.*, 6 *x* 9, 295 *illus.* (1957)....$14.00*r*
Presents the fundamental methods employed in microwave measurements. The topics discussed provide a background for all common microwave measurements, as well as for more specialized applications. The book stresses basic techniques, and mathematical justification for the various techniques described is supplied in footnote form. Special emphasis is placed on the treatment of microwave circuits as four-terminal networks, and the study of their behavior by the nodal-shift technique.
CONTENTS—Generation of Laboratory Signals. Detection of Microwave Power. Measurement of Microwave Power. Impedance Concepts at Microwave Frequencies. Measurement of Impedance. Representation and Measurement of Microwave Circuits. Measurements of Wavelength. Measurement of Frequency. Resonant Cavity Characteristics: Measurement of Q. Resonant Cavity Characteristics: Measurement of Ro/Qo. Measurements of Attenuation. Appendices. Index.

HAMILTON, KNIPP, AND KUPER—Klystrons and Microwave Triodes
By DONALD R. HAMILTON, Princeton University, JULIAN K. KNIPP, Iowa State College, and J. B. HORNER KUPER, Brookhaven National Laboratory. Volume 7—*MIT Rad. Lab. Series.*
526 *pp.*, 6 *x* 9, 226 *illus.* (1948).....$11.00*r*
Primarily concerned with low-powered microwave triodes and klystrons and their performance as local oscillators, signal generators, and low-powered transmitters. A theoretical treatment is given covering the use of triodes and klystrons as mixers, amplifiers, oscillators, and frequency multipliers.
CONTENTS—Part I. Fundamentals: Introduction. Discussion of Tube Types and Functions. Basic Electronic Phenomena at High Frequencies. Basic Circuit Phenomena at High Frequencies. Part II. Planar Space-charge Tubes: Theory of H-F Space-Charge Devices. Space-Charge Devices as Microwave Amplifiers. Microwave Triode Oscillators. Pulse Operation of Microwave Triodes. Part III. Klystrons: Velocity Modulation and Klystron Bunching. Amplifier Klystrons. Frequency Multiplier Klystrons and Two-resonator Klystron Oscillators. Reflex Klystron Oscillators. Nonideal Reflectors. Hysteresis in Reflex Klystrons. Load Effects in Reflex Klystrons. Reflex-klystron Modulation. Noise in Reflex Klystrons. Practical Reflex Klystrons. Index.

LAX AND BUTTON—Microwave Ferrites and Ferrimagnetics
By BENJAMIN LAX and KENNETH J. BUTTON, Massachusetts Institute of Technology. *Linc. Lab. Pub.*
767 *pp.*, 6 *x* 9, 431 *illus.* (1962)....$17.50*r*
Material in this senior-graduate level text has been organized in tutorial form, each chapter being a fully developed exposition of a topic. The book covers research and development during the past ten years and was written for students, researchers, designers, and users of microwave ferrite components and devices.
CONTENTS—History of Ferrite Research and Applications. Paramagnetism and Ferromagnetism. Ferrimagnetism and Anti-ferromagnetism. Ferromagnetic Resonance, Relaxation and Nonlinear Effects. Ferrimagnetic and Antiferromagnetic Resonance. Plane-wave Propagation, Perturbation Theory, Modes in Waveguides and Cavities. Fundamental Measurement Techniques and Results. Scattering-matrix Analysis of Ferrite Devices. Microwave Devices. Bibliography, Index.

MONTGOMERY—Technique of Microwave Measurements
Edited by CAROL G. MONTGOMERY, Volume 11—*MIT Rad. Lab. Series.*
939 *pp.*, 6 *x* 9, *illus.* (1947).....$14.50*r*
A description of techniques and apparatus which will be useful to present and future workers in the recently-explored microwave field, with emphasis placed on laboratory equipment. Most of the methods discussed are based on the wave character of high-frequency currents, rather than on the low-frequency techniques of direct determination of current or voltage.

CONTENTS—Introduction. Part I, Power Generation and Measurement: Power Sources. Microwave Power Measurements. Microwave Signal Generators. Part II, Wavelength and Frequency Measurements: The Measurement of Wavelength. Frequency Measurements. The Measurement of Frequency Spectrum and Pulse Shape. Part III, The Measurement of Impedance and Standing Waves: Measurements of Standing Waves. Impedance Bridges. The Measurement of Dielectric Constants. Part IV, Attenuators. Microwave Attenuators: Resistive Attenuators. The Measurement of Attenuation. Directional Couplers. R-F Phase and Pattern Measurements. Appendix: Manufacturers of Microwave Equipment. Index.

MONTGOMERY, DICKE, AND PURCELL —Principles of Microwave Circuits

Edited by C. G. MONTGOMERY, R. H. DICKE, Princeton University, and E. M. PURCELL, Harvard University. Volume 8—*MIT Rad. Lab. Series.*

486 *pp.*, 6 *x* 9, 297 *illus.* (1948)....$10.00*r*

Starting from Maxwell's equations, a description is given of guided electromagnetic waves. The concept of impedance is generalized to apply to waveguide circuits. Following a review of low-frequency network theory, general network theorems which apply both to high- and to low-frequency circuits are developed. The properties of waveguide circuit elements are fully discussed. These general properties are applied to the discussion of microwave devices. The results which follow from the symmetry properties of microwave junctions are emphasized.

CONTENTS—Electromagnetic Waves. Waveguides as Transmission Lines. Elements of Network Theory. General Microwave Circuit Theorems. Waveguide Circuit Elements. Resonant Cavities as Microwave Circuit Elements. Radial Transmission Lines. Waveguide Junctions with Several Arms. Mode Transformations. Dielectrics in Waveguides. The Symmetry of Waveguide Junctions.

POUND—Microwave Mixers

Edited by ROBERT V. POUND, Harvard University. With a chapter by ERIC DURAND. Volume 16—*MIT Rad. Lab. Series.*

374 *pp.*, 6 *x* 9, 221 *illus.* (1948).....$8.75*r*

A manual for engineers and technicians describing the microwave portions of receivers for very-high-frequency waves. A general discussion of the various types of receiving systems and their relative merits, the conversion frequency problem is treated in all its aspects. Practical mixers are described and their design problems are discussed.

CONTENTS—Introduction: Classification and Description of Types of Microwave Receivers. Crystal Rectifier Units: Testing and Specifications of Crystals. Simple Microwave Crystal Mixer Circuits. Multiple-function Mixers: Beacons and Automatic Frequency Control. Load-dependent Properties of Oscillators. Examples of Multiple-function Mixers. Local-oscillator Noise. Balanced Mixers. Frequency Control of Local Oscillators: Difference-frequency Systems. Nonhunting Systems. Drift-in Hunting System. Thermal Hunting Systems. Absolute-frequency Hunting Systems. Special Measurement Techniques. Index.

RAGAN—Microwave Transmission Circuits

Edited by GEORGE L. RAGAN, General Electric Research Laboratory, Schenectady, New York. Volume 9—*MIT Rad. Lab. Series.*

748 *pp.*, 6 *x* 9, *illus.* (1948).....$12.00*r*

The problems of the transmission of power from one place to another at microwave frequencies are fully discussed in this volume from a practical point of view. The elementary theory of operation and the complete design procedure are described for many essential components of transmission lines. Consideration of power-handling capacity, loss, and convenience of use are discussed in relation to the best choice of the type of transmission line for a given application. The use of the circle diagram, matching techniques, and methods for extending the frequency range for good operation are treated.

CONTENTS—Introduction. Elementary Line Theory. Materials and Construction Techniques. Rigid Transmission Lines. Flexible Coupling Units and Lines. Transition Units. Motional Joints. Turners, Power Dividers, and Switches. The Theory of Microwave Filters. The Design of Microwave Filters.

SIEGMAN—Microwave Solid-State Masers

By ANTHONY E. SIEGMAN, Stanford University. *Series in Elec. & Electron. Engg.*

In Press

The two major objectives of this book are: 1) to give a good introduction to the important basic physical concepts involved in the microwave solid-state maser amplifier; 2) to give a thorough and extensive coverage of the theory of this device and the current technology in this field. It will teach engineers about paramagnetic resonance and other related topics in clear and comprehensive terminology. It will show how the maser works, what its applications are, and what the current "state of the art" is.

SILVER—Microwave Antenna Theory and Design

Edited by SAMUEL SILVER, University of California, Berkeley. Volume 12—*MIT Rad. Lab. Series.*

614 *pp.*, 6 *x* 9, 350 *illus.* (1949).....$12.50*r*

Provides a comprehensive survey of theory and design techniques for microwave antennas, and a full discussion of antenna measurement methods. A survey of those parts of electromagnetic and optical theory which are basic to the subject is followed by a series of chapters discussing various types of antenna feeds and the complete antenna systems used for producing all principal types of microwave beams.

CONTENTS—Survey of Microwave Antenna Design Problems. Circuit Relations, Reciprocity Theorems. Radiation from Current Distributions. Wave Fronts and Rays. Scattering and Diffraction. Aperture Illumination and Antenna Patterns. Microwave Transmission Lines. Microwave Dipole Antenna and Feeds. Linear Array Antennas and Feeds. Waveguide and Horn Feeds. Dielectric and Metal-plate Lenses. Antenna Installation Problems. Antenna Measurements—Techniques. Index.

SMULLIN AND MONTGOMERY—Microwave Duplexers

Edited by L. D. SMULLIN, Massachusetts Institute of Technology, and C. G. MONTGOMERY. Volume 14—*MIT Rad. Lab. Series.*

430 *pp.*, 6 *x* 9, 397 *illus.* (1948).....$9.50*r*

This book deals with the general problem of using a single antenna for both receiving and transmitting, and is therefore mainly of interest for pulsed transmission applications. A discussion is given of the low-level properties of TR and ATR tubes and the methods for their design. The high-level operation is described in detail and discussed in connection with the properties of the gases used for filling the tubes.

CONTENTS—Linear Theory of High-Q TR Tubes. Bandpass TR Tubes: Theoretical Considerations. Experimental Results. Characteristics of ATR Switches at Low-power Levels. Microwave Gas Discharges. The TR and ATR Tubes at High Power. The Principles of Branched Duplexing Circuits. Practical Branched Duplexers and Balanced Duplexers. Measurement Techniques. Index.

VAN VOORHIS—Microwave Receivers

Edited by S. N. VAN VOORHIS, Massachusetts Institute of Technology. Volume 23—*MIT Rad. Lab. Series.*

611 *pp.*, 6 *x* 9, 451 *illus.* (1943)....$11.50*r*

This book treats together all the elements making up a wide-band receiver. Its first section deals with the individual circuit types from which a complete receiver is assembled. The second section deals with general matters concerning the assembly, testing, and maintenance of microwave receivers. The third section describes actual receivers chosen as examples because they are typical of the important combinations of circuits.

CONTENTS—Introduction. Duplexers, Microwave Mixers, and Local Oscillators. AFC Systems and Circuits. I-F Input Circuits. VHF Amplifiers, Mixers, and Oscillators. Intermediate-frequency Amplifiers. Second Detectors. Video Amplifiers. Gain-control Circuits. Mechanical Construction of Receivers. R-F Test Equipment. I-F Test Equipment. A Simple Radar Receiver. An Airborne Receiver Incorporating Anticlutter Circuits. A Receiver for an Automatic-tracking Radar. A Two-band 200-MC/sec Superheterodyne Receiver. Wide-band F-M Receiver. Beacon Superheterodyne Receivers. Superregenerative Receivers. MTI Receivers. Index.

Electronics

ANGELO—Electronic Circuits, 2d Ed.
A Unified Treatment of Vacuum Tubes and Transistors
By E. J. ANGELO, JR., Polytechnic Institute of Brooklyn. *Series in Elec. & Electron. Engg.*
In Press

An introductory text for Electrical Engineers. The first half of the book deals with circuit characterizations for tubes and transistors, thus emphasizing properties of active devices and their circuit representations. The second half is concerned with linear tube and transistor circuits. In this revision two new chapters have been added, on power amplifiers and controlled rectifiers. The discussion of transistor physics has been greatly expanded.

CONTENTS—Introduction. The Ideal Diode. Practical Rectifiers. Ideal Amplifiers. The Basic Vacuum-Triode Amplifier. Practical Triode Amplifiers. Incremental Linear Models for the Vacuum Triode. The Basic Transistor Amplifier. Practical Transistor Amplifiers. Multigrid Vacuum Tubes. Audio-frequency Power Amplifiers. Controlled Rectifiers. Analysis of Piecewise-linear Circuits. Systematic Analysis of Linear Electronic Circuits. Network Theorems. Frequency Characteristics of Single-stage Amplifiers. Frequency Characteristics of Cascaded Amplifiers. Tuned Amplifiers. Feedback Amplifiers. Appendix. Answers to Selected Problems. Index.

BREMER—Superconductive Devices
By JOHN W. BREMER, Senior Research Engineer, General Electric Computer Laboratory. *Electron. Sc. Series.*
183 *pp.*, 6 *x* 9, 42 *illus.* (1962).....$8.00*i*

This fully illustrated volume presents vital information on all major types of superconductive devices. It progresses in careful stages from principles of superconductivity through detailed explanations of cryotron device characteristics and cryotron circuit types. Particular emphasis is given to computer devices. In addition, the author takes up a variety of high power, high frequency, electromechanical, and negative resistance applications. Concise discussions are supplemented throughout with tables, photographs, and helpful illustrations showing important advances in the field.

CONTENTS—SUPERCONDUCTIVITY. Magnetic Effects. Superconductive Ring. Penetration of Magnetic Field. Intermediate State. Critical Field of Small Specimens. Current Distribution. Thermodynamic Effects. Gyromagnetic Effect. Alloys and Compounds. Fundamental Theories. CRYOTRONS. Wire-wound Cryotrons. Field-induced Transitions in Thin Films. Current-induced Transitions in Thin Films. Thin-film Cryotron Characteristics. CRYOTRON CIRCUITS. Basic Cells. Trees and Matrices, Catalog Memory. System Considerations. COMPUTER MEMORY DEVICES. Basic Cell. Inductively Coupled Cell. Crowe Cell. Other Memory Cells. OTHER DEVICES. High Currents and Fields. Low-frequency Devices. High-frequency Devices. Radiation Detectors. Electromechanical Applications. Tunnel Effect. LOW-TEMPERATURE TECHNIQUES AND MATERIALS. Liquid Helium. Materials. Laboratory Cryostats. Techniques.

CALABRO—Reliability Principles and Practices
By S. R. CALABRO, Aerospace Electronics Technology Inc.
371 *pp.*, 6 *x* 9, 52 *illus.* (1962)....$11.00*i*

This book shows you how to apply concepts of reliability theory to solve practical reliability problems. It presents effective reliability formulations and mathematical models, illustrating their application with scores of typical examples. Many new developments are covered, particularly with respect to maintainability, availability, and redundancy. Formulations developed, tested, and tried by the author are provided which combine failure rates and maintenance-time constraints. The book develops the KAPPA SQUARE, a statistic which simplifies the preparation of time-sampling plans for various confidence levels. It describes original sampling techniques and deficiency reporting systems which reduce testing costs and facilitate early development of equipment. Mathematical approximations are used when they are sufficiently accurate. Stressing application of basic principles, the book illustrates their use in the solution of common industrial reliability problems.

CONTENTS—An Introduction to the Reliability Concept. Measures of Central Tendency and Dispersion. Probability and Its Application to Series and Parallel Reliability (Redundancy). The Normal Distribution. The Binomial Distribution. The Poisson Distribution and the Exponential Failure Law. Reliability Data. Analysis of Reliability Data. Maintainability and Availability. Sampling Methods. Reliability Sampling and Control Charting—Time Samples. Reliability and Availability Prediction Methods. Principles of Reliability Design. Reliability Specifications. U.S. Government Requirements. Management of a Reliability Program. Appendices.

CARROLL—Electron Devices and Circuits
By JOHN M. CARROLL, *Electronics.*
352 *pp.*, 6 *x* 9, 238 *illus.* (1962)....$8.75*t*†

Offers comprehensive coverage of the structure and operation of electron devices and their application in the most widely used electronic circuits. This modern presentation offers parallel applications of transistors and electron tubes throughout the circuit design chapters. In addition to the common types of tubes and devices, the text covers new and important devices such as magnetic amplifiers, gas tubes, microwave tubes, indicators and display devices. It prepares the reader for further study in the fields of computers, industrial control equipment, electronic instruments, and radar. Text is designed for basic courses at the technical institute-junior college level; therefore, a knowledge of electrical fundamentals is assumed. Calculus is not required.

CONTENTS—Preface. Introduction to Electron Devices. The Atomic Basis of Electron Devices. Basic Electricity and Magnetism. Vacuum Tubes. Semiconductor Devices. Gas Tubes. Magnetic Amplifiers. Cathode-Ray Tubes. Microwave Tubes. Electron-Tube Transducers and Indicators. Masers and Parametric Amplifiers. Introduction to Electronic Circuits. Amplifiers. Oscillators. Modulators and Demodulators. Power Supplies. Bibliography. Index.

CHIRLIAN AND ZEMANIAN—Electronics
By PAUL M. CHIRLIAN, Stevens Institute of Technology, and ARMEN H. ZEMANIAN, State University of New York. *Elec. & Electron. Engg. Series.*

† *Textbook edition available at educational list price.*

335 *pp.*, 6 *x* 9, 292 *illus.* (1961).....$9.50*c*

This text, for the first course in electronics clearly discusses the physical phenomena of the various types of devices, such as vacuum tubes, transistors, and tunnel diodes, and emphasizes the similarities in these phenomena wherever possible. The authors introduce a "generalized device," a hypothetical 3-terminal device whose input or controlling parameter may represent either a current or a voltage, or any variable. Using this device, the development is immediately applicable to many electronic devices, thus emphasizing the similarities in the circuit applications.

CONTENTS—Preface. Electronic Physics. Electronic Emission. The High-Vacuum Diode. Semiconductor Physics. The Semiconductor Diode. Gaseous Electronics. Vacuum-Tube Triodes. Other Multielectrode Vacuum Tubes. Transistors. Graphical Analysis of Vacuum-Tube and Transistor Circuits. Linear Equivalent Circuits for Vacuum Tubes and Transistors. Piecewise-Linear Equivalent Circuits. INDEX.

DUMMER AND NORDENBERG—Fixed and Variable Capacitors

By G. W. A. DUMMER, the Royal Radar Establishment, Malvern, England; and HAROLD M. NORDENBERG, Dept. of the Navy.

281 *pp.*, 6 *x* 9, 167 *illus.* (1960)....$11.00*i*

Treats design and construction of fixed and variable capacitors to assure proper application in electronic equipment. Construction details of fixed capacitors are covered according to the dielectric materials used; and details of variable capacitors are based upon the design as dictated by the application. The book also provides general information on capacitors, capacitor characteristics and selection, and techniques of measurement of capacitors. In addition, there are discussions of experimental types of capacitors, faults which may occur in capacitors, and future developments in variable capacitor design.

CONTENTS—PART I. GENERAL INFORMATION ON ELECTRONIC PARTS (COMPONENTS). A Brief History of the Development of Electronic Parts. General Information on Capacitors. Characteristics and Selection of Capacitors. The Measurement of Capacitors. General Information on Fixed Capacitors. PART II. FIXED CAPACITORS. Paper- and Mica-dielectric Fixed Capacitors. Ceramic-, Glass-, and Vitreous-Enameled Dielectric Capacitors. Capacitors with Plastic Dielectrics. Electrolytic Capacitors. Air-, Vacuum-, and Gas-dielectric Capacitors. Experimental Types of Fixed Capacitors. Failures Which May Occur in Fixed Capacitors. Future Developments in Fixed Capacitor Design. PART III. VARIABLE CAPACITORS. General Information on Variable Capacitors. General Purpose Variable Capacitors. Precision Variable Capacitors. Trimmer Capacitors. Special Types of Variable Capacitors. Faults Which May Occur in Variable Capacitors. Future Developments in Variable Capacitor Design.

KEONJIAN—Microelectronics

Theory, Design, and Fabrication

Edited by EDWARD KEONJIAN, Arma Division, American Bosch Arma Corporation.

408 *pp.*, 6 *x* 9, 267 *illus.* (1963)....$12.50*i*

This book presents an integrated and comprehensive treatment of an entirely new and fascinating field—microelectronics. Its purpose is to help practicing engineers and scientists to become thoroughly acquainted with the existing basic concepts, design procedures, and fabrication of microminiature and integrated electronic circuits. The material in the book is based on the authors' personal experiences in the field—in which they have all played a leading role. Topics include definitions and categorizations; design and manufacture of microminiature electronic circuits and components made of discrete component parts (devices); thin-film integrated circuit technology, including design and fabrication techniques for passive devices, magnetic, semiconductor and cryogenic thin films and their integrations; semiconductor integrated circuits; technology for manufacturing semiconductor integrated circuits; functional devices and the philosophy of this novel concept. The book has more than 300 references related directly to the subject.

SPANGENBERG—Fundamentals of Electron Devices

By KARL R. SPANGENBERG, Consultant. *Series in Elec. & Electron. Engg.*

500 *pp.*, 6 *x* 9, 398 *illus.* (1957)....$11.00*c*

This text presents a unified fundamental treatment of electron devices including vacuum tubes and transistors. Although it is written at the undergraduate level, it is suitable for practicing engineers who wish information on new devices, particularly semiconductor devices. Emphasis is on the similar features of tubes and transistors, rather than their differences. This is accomplished through the common denominator of semiconductor theory. The internal physics of the devices is stressed, and the book discusses the role physics plays in determining the external characteristics.

BLACKBURN—Components Handbook

Edited by JOHN F. BLACKBURN, Hydel. Volume 17—*MIT Rad. Lab. Series.*

624 *pp.*, 6 *x* 9, *illus.* (1948).....$11.50*r*

Codifies available information on the properties and characteristics of electronic components. The book includes the results of original measurements made at the Radiation Laboratory on manufactured components. Fixed components are treated in the first part. The second part deals with electro-mechanical devices, while the third part is devoted to vacuum tubes and includes a brief summary of the properties of cathode ray tubes.

CONTENTS—Wires and Cables. Fixed Composition Resistors. Fixed Wire-wound and Miscellaneous Resistors. Iron-core Inductors. Piezoelectric Devices. Electromagnetic Delay Lines. Supersonic Delay Lines. Potentiometers. Special Variable Condensers. Rotary Inductors. Instrument Motors and Tachometers. Power Supplies. Relays and Related Devices. Receiving Tubes. Index.

HENNEY—Reliability Factors for Ground Electronic Equipment

By KEITH HENNEY, *Electronics*, IRVING LOPATIN, ELMER T. ZIMMER, and LEONARD K. ADLER, McGraw-Hill Book Company, Inc., Technical Writing Service, and JOSEPH J. NARESKY, Project Engineer, Rome Air Development Center.

244 *pp.*, 8½ *x* 11, 152 *illus.* (1956)...$8.50*i*

Presents facts and research results on improving the reliability of electronic equipment provided for the Armed Forces. Based on the work done by both governmental and private agencies, it sets up workable criteria to help the equipment designer overcome or reduce unreliability. It covers useful statistical methods, electrical and mechanical engineering principles, human engineering, selection and use of tubes and other component parts, plus data on training and service manuals and maintenance.

CONTENTS—Reliability Concepts. Causes of Unreliability. Systems Aspects. Mathematical Approach to Reliability. Electrical and Electronic Factors. Mechanical and Environmental Factors. Human Engineering. Component Parts. Interference. Automatic Production. Equipment Publications. Maintenance.

HENNEY, WALSH, AND MILEAF—Electronic Components Handbook—Volumes I, II, III

Prepared for ELECTRONIC COMPONENTS LABORATORY, WRIGHT AIR DEVELOPMENT CENTER, and edited by KEITH HENNEY, CRAIG WALSH, and HARRY MILEAF, Technical Writing Service, McGraw-Hill Book Company.

A 3-volume set for designers of military and commercial electronic equipment. Furnishes data that aids in selecting and applying the best unit for a particular job so that maximum reliability of the end product results. For each component the handbook offers a general description of the kinds available. This includes information on both their advantages and disadvantages under various conditions, and the effects on each of unfavorable environment—heat, humidity, high altitude, pressure, shock, vibration, etc. A digest of the military specifications covering each kind of the components presented in the handbook is given.

VOLUME I—Resistors, Capacitors, Relays, Switches.

224 *pp.*, 8¼ *x* 11, 164 *illus.* (1957) . $12.50*hb*

Furnishes data on resistors, capacitors, relays and switches as an aid in selecting and applying the best unit for a particular job so that maximum reliability of the end products results.

VOLUME II—Power Sources and Converters, Fuses and Circuit Breakers, Electrical Indicating Instruments, Printed Wiring Boards, Solder and Fluxes, Choppers, Blowers, RF Transmission Lines and Waveguides.

357 *pp.*, 8½ *x* 11, 283 *illus.* (1958) . $13.50*hb*

VOLUME III—Transformers and Inductors, Connectors, Wire and Cable, Terminals, Tube Shields, Hardware.

180 *pp.*, 8½ *x* 11, 156 *illus.* $10.00*hb*

LANDEE, DAVIS, AND ALBRECHT—Electronic Designers' Handbook

By ROBERT W. LANDEE, RCA, Van Nuys, Cal., DONAVAN C. DAVIS, Tridea Electronics Inc., California, and A. P. ALBRECHT, Space-General Corp., Cal.

1152 *pp.*, 6 *x* 9, 984 *illus.* (1957) . . . $17.50*hb*

A handbook of fundamentals and data to aid in the design of all types of electronic equipment. Covers many of the circuits used by engineers, with theoretical and technical discussions, graphical and tabular data, and practical design examples illustrating applications of the theory. Entire electronic field is discussed, from vacuum tube fundamentals and power amplifiers to such rapidly advancing topics as computer and servomechanism techniques, and waveform and network analysis.

MILLMAN—Vacuum-tube and Semiconductor Electronics

By JACOB MILLMAN, Columbia University. *Elec. & Electron. Engg. Series.*

644 *pp.*, 6 *x* 9, 540 *illus.* (1958) $11.50*c*

The first book to integrate vacuum tubes and transistors. The author first presents a consistent picture of the internal physical behavior and simultaneously of the external circuit characteristics of vacuum, gaseous, and semiconductor devices. Secondly, the transistor story is truly interwoven with vacuum-tube electronics. The third objective of the book is to teach electronic circuit theory to provide an intimate understanding of the vacuum-tube and semiconductor device as a circuit element.

CONTENTS—Preface. Motion of Charged Particles in Electric and Magnetic Fields. Applications of the Motion of Particles in Applied Fields. Metals and Semiconductors. Vacuum-diode Characteristics. Semiconductor-diode Characteristics. Photoelectric Devices. Vacuum-triode Characteristics. Triode Linear Equivalent Circuits. Transistor Characteristics. Transistor Linear Equivalent Circuits. Multielectrode Vacuum Tubes and High-frequency Transistors. Electrical Discharges in Gases. Commercial Gas Tubes. Rectifiers. Untuned Voltage Amplifiers. Audio Power Amplifiers. Feedback Amplifiers. Sinusoidal Oscillators. Power Supplies. APPENDIX. Probable Values of General Physical Constants. Conversion Factors. Periodic Table of the Elements. The MKS System. Poisson's Equation. The Continuity Equation. Tube and Semiconductor Graphical Symbols. Circuit Notation Conventions. Tube and Transistor Characteristics. Problems. Index.

PAPPENFUS, BRUENE, AND SCHOENIKE—Single Sideband Principles and Circuits

By E. W. PAPPENFUS, Granger Associates, WARREN B. BRUENE, Collins Radio Company, and EDGAR O. SCHOENIKE, Collins Radio Company.

In Press

This book discusses modern applications of single sideband (SSB) modulation. Topics covered include: nature of SSB signals; effects of propagation on SSB signals; basic SSB system requirements; SSB generation; balanced modulators; filters for sideband separation; exciters; frequency generation; linear amplifiers; distortion and distortion reduction; neutralization and stabilization; power supplies; SSB transceivers; and analysis of SSB and other modulation methods. The book will be useful to communications engineers, radio experimentors, scientists studying revision of the radio bands, and radio amateurs.

SCHLABACH AND RIDER—Printed and Integrated Circuitry

Materials and Processes

By TOM D. SCHLABACH and DON K. RIDER, Bell Telephone Laboratories, Inc.

430 *pp.*, 6 *x* 9, 98 *illus.* (1963) $13.50*i*

Presents the fundamental aspects of printed and integrated circuitry from the viewpoint of the materials and processes involved. Provides a more unified treatment than heretofore available. Each of the diverse disciplines—mechanical and electrical engineering, graphic arts; chemistry, metallurgy, ceramics, etc., which affect the materials engineering, design, manufacture, and evaluation of these types of circuits is covered in terms of its relevance to the subject. Past and present approaches to all important areas of the subject are critically reviewed and a carefully selected but extensive bibliography is provided for further study. The work divides itself into four interdependent sections: properties of the insulating substrates; processes; decision making; integrated circuitry.

SPANGENBERG—Vacuum Tubes

By KARL R. SPANGENBERG, Consultant. *Elec. & Electron. Engg. Series.*

860 *pp.*, 6 *x* 9, *illus.* (1948) $15.00*rL*

An exceptionally comprehensive survey of all the physical laws which contribute to the understanding of vacuum tube behavior. The outstanding types of tubes are covered individually, and essentials of the subject are presented in as elementary a way as is consistent with a comprehensive treatment. Recent advances are thoroughly covered, and the material includes a number of items not previously available in book form.

CONTENTS—Introduction. Basic Tube Types. Electrons and Ions. Electronic Emission. Determination of Potential Fields. Laws of Electron Motion. The Elec-

trostatic Field of a Triode. Space Charge. Triode Characteristics. Tetrodes. Pentodes. Noise in Vacuum Tubes. Electrostatic Electron Optics. Magnetic Lenses. Cathode-ray Tubes. Ultra-high-frequency Effects in Conventional Tubes. Velocity Modulated Tubes or Klystrons. Magnetron Oscillators. Photoelectric Tubes. Special Tubes. High-vacuum Practice. Appendixes. Problems. Name Index. Subject Index.

TERMAN AND PETTIT—Electronic Measurements

Formerly Measurements in Radio Engineering

By F. E. TERMAN and J. M. PETTIT, Stanford University. *Elec. & Electron. Engg. Series.* Second Edition.

683 *pp.*, 6 *x* 9, 450 *illus.* (1952)....$13.50*c*

Covers measurement fundamentals in many fields beyond conventional radio, including television, radar and other pulsed systems, microwave techniques, and a diversity of techniques of value to engineers in other areas who may use electronics in their instrumentation. The book features well illustrated descriptive material on the important fundamentals of the various measurements, together with appropriate practical details and complete bibliographical footnotes.

CONTENTS—Voltage and Current. Power. Circuit Constants of Lumped Circuits. Circuit Constants in Systems Involving Distributed Constants. Measurement of Frequency. Waveform, Phase and Time-interval Measurements. Characteristics of Triodes, Pentodes and Similar Tubes. Amplifier Measurements. Receiver Measurements. Antenna Measurements. Radio Waves. Laboratory Oscillators. Generators of Special Waveforms. Resistance and Reactance Standards and Devices. Attenuators and Signal Generators. Index.

VALLEY AND WALLMAN—Vacuum Tube Amplifiers

Edited by GEORGE E. VALLEY, JR. and HENRY WALLMAN, Massachusetts Institute of Technology. Volume 18—*MIT Rad. Lab. Series.*

744 *pp.*, 6 *x* 9, *illus.* (1948).....$13.50*r*

This book seeks to analyze completely, to give design principles of, and to describe the special constructional techniques pertaining to many important types of amplifiers. The amplifiers selected for treatment are, in general, characterized either by very high gain, by large bandwidth, by great dynamic range, or by precise response.

CONTENTS—Linear-circuit Analysis and Transient Response. High-fidelity Pulse Amplifiers. Pulse Amplifiers of Large Dynamic Range. Synchronous and Staggered Single-tuned High-frequency Bandpass Amplifiers. Double-tuned Circuits. High-frequency Feedback Amplifiers. Bandpass Amplifiers: Pulse Response and General Considerations. Amplifier Measurement and Testing. Low-frequency Amplifiers with Stabilized Gain. Low-frequency Feedback Amplifiers. Direct-coupled Amplifiers. Amplifier Sensitivity. Mineral Noise Circuits. Measurement of Noise Figure. Realizability of Filters. Appendix A: Appendix B: Calculation of Load-tuning Condenser. Appendix C: Drift of Vacuum-tube Characteristics under Constant Applied Potentials. Index.

WELLARD—Resistors and Resistance

By CHARLES L. WELLARD, Clifton Precision Products Co.

264 *pp.*, 6 *x* 9, 82 *illus.*, 28 *tables* (1960) $8.50*i*

Gives groundwork in basic aspects of resistance, and descriptions of each type of resistor, materials used in its manufacture, characteristics associated with each type, and applications. Comprehensive tables supply most manufacturers' data, with specific types of resistors covered in common tables. Power and voltage rating of resistors, varieties of materials used in their construction, and other data are presented in handy chart and graph form. Fully treats such important matters as reliability in resistors, measurement, and testing.

CONTENTS—ASPECTS OF RESISTANCE: Resistance Concepts and Theory. Resistance Materials: The Measurement of Resistance. Basic Construction and Characteristics of Resistors. Resistor Classification and Characteristics of Resistors. Resistor Classification and Nomenclature. Resistor Specifications and Testing Procedures. Resistors and Reliability. TYPES OF RESISTORS: SPECIFICATIONS, CHARACTERISTICS, AND APPLICATIONS: General-purpose Low-power Fixed Resistors (Non-wire-wound). General-purpose Fixed Low-power Resistors (Wire-wound). High-frequency Low- and Medium-power Resistors. High-voltage Resistors. Special-purpose Low- and Medium-power Wire-wound Resistors. Low-, Medium-, and High-power Wire-wound Resistors. Precision Wire-wound Resistors. Printed Resistors and Multiple Components. Precision Pyrolytic-film (Fixed). Low-power Resistors. Precision Metal-film Resistors. High-temperature Resistors. Hermetically Sealed Resistors. Thermistors. Varistors. General-purpose Low-power Variable Resistors (Non-wire-wound). General-purpose Variable Resistors (Wire-wound). Medium- and High-power Variable Resistors (Wire-wound). Variable Precision Resistors (Non-wire-wound). Precision Potentiometers (Wire-wound-rotary). Rectilinear Potentiometers. Audio Resistance Attenuators. Specialty Resistor Products.

Transistors

CARROLL—Modern Transistor Circuits

By JOHN M. CARROLL, *Electronics.*

296 *pp.*, 8½ *x* 11, 600 *illus.* (1959)..$10.00*i*

Provides almost 200 modern transistor circuits with complete design information and electronic component values, classified and arranged for easy reference. Emphasis given to new circuits combining transistors and electron tubes, and transistors and magnetic amplifiers. This book is based on more than 100 recent articles in *Electronics* magazine.

CONTENTS—Circuit Design Data. Transistor Amplifiers. Design of Transistor Oscillators. Transistor Power Supplies. Design of Pulse Circuits. Home-entertainment Circuits. Radio and TV Broadcast Equipment. R-F Communications Circuits. Audio Communications Circuits. Test Instruments. Industrial Control Circuits. Industrial Measuring Instruments. Industrial Detection Circuits. Aircraft, Missile, and Satellite Telemetry. Scientific and Medical Instruments. Computer Circuit Design. Computer Auxiliary Equipment. Index.

CARROLL—Transistor Circuits and Applications

By JOHN M. CARROLL, *Electronics.*

232 *pp.*, 8½ *x* 11, *illus.* (1957)....$10.00*iL*

Provides circuit designers with a handy source of detailed information on how to apply transistors on military, industrial, and home entertainment equipment. Covers typical transistor operating characteristics, important circuit parameters, transistor types, problems of temperature and gain stabilization, and a large number of typical transistor circuits. The circuits are shown with actual component values, and include those used in portable and automobile radios, radio amplifiers, and military communications equipment. Operating characteristics of over 200 commercially available transistors representing all types are listed.

CARROLL—Design Manual for Transistor Circuits

Edited by JOHN M. CARROLL, *Electronics.*

376 *pp.*, 8¾ *x* 11, 28 *illus.* (1961)..$10.00*iL*

Gives a wealth of design information in compact form of circuits where transistors and other semiconductor devices are used. Covers theory; use of transistors in amplifier, oscillator, power supply, pulse, and other basic circuits; circuit applications of tunnel diodes; silicon controlled rectifiers and unijunction transistors; and application of transistors in equipment such as

home entertainment and communications apparatus, instruments, and computers.
CONTENTS—Semiconductor Devices. Circuit Design Techniques. Circuit Design Charts. Amplifiers. Oscillators. Power Supplies. Counting Circuits. Radio Receivers. Television Receivers. Communications Applications. Test Instruments. Solid-State Switching and Control. Servomechanisms. Industrial Measuring Instruments. Medical Instruments. Missile and Satellite Telemetry. Missile and Aircraft Guidance. Radar, Sonar and Beacons. Digital Computer Switching Circuits. Digital Computer Memory Circuits. Data Processing Input-Output Circuits.

CARROLL—Tunnel-Diode and Semiconductor Circuits

By JOHN M. CARROLL, Managing Editor, *Electronics* Magazine.
416 *pp.*, 8⅜ *x* 11, 538 *illus.* (1963)..$9.75*i*
Covers the theory and application of semiconductor devices other than conventional transistors and diodes. The first one-third of the book deals with theory and application of tunnel diodes. The book also covers the most important approaches to the design of microcircuits in which the functions of an electronic circuit are performed wholly upon and within a tiny block of silicon. Other devices for which theory and application are given include Hall-effect devices, silicon-controlled rectifiers and unijunction transistors. Topics covered include: technical description of each new device discussed; theory and basic applications of tunnel diodes; test equipment; tunnel-diode circuits; designs for tunnel-diode amplifiers; tunnel-diode oscillators; large-signal circuits for digital computers and other pulse applications.

COBLENZ AND OWENS—Transistors

Theory and Applications
By ABRAHAM COBLENZ, Ohmite Manufacturing Company, Skokie, Illinois, and HARRY L. OWENS, Texas Instruments, Inc.
313 *pp.*, 6 *x* 9, *illus.* (1955).....$8.50*i*
Treats theory, practical applications, and manufacture of transistors in a way useful to technicians, engineers, and advanced workers alike. Discusses both silicon and germanium transistors—how they work, how they are made, and how they are used—step-by-step from basic concepts to advanced topics.
CONTENTS—A Short History of Transistors. Holes and the Transistor. A Glimpse of Quantum Mechanics. The Electron. Nature of Semiconductors. Point Contact Transistors. Junction Transistors. Electronics of Transistors. Small Signal Parameters. Grounded Emitter and Grounded Collector Connections. Theory of Transistor Switching Circuits. Cascading of Transistors. Manufacturing Processes. Silicon. Special Topics. Appendices: Four-pole Parameter Transformation Equations. Generalized Equations for Transistors in Cascade. Excerpts from MIL-T-12679A (Sig C).

COTE AND OAKES—Linear Vacuum Tube and Transistor Circuits

A Unified Approach to Linear Active Circuits
By ALFRED J. COTE, JR., and J. BARRY OAKES, both The Johns Hopkins University. *Elec. & Electron. Engg. Series.*
437 *pp.*, 6 *x* 9, 253 *illus.* (1961)....$11.50*c*
This text presents a basic approach to the analysis and synthesis of vacuum tube and transistor linear circuits, emphasizing the difference and similarities between the two devices. The specific topics covered include ideal active elements; two-port theory; circuit properties of vacuum tubes and transistors; basic passive component configurations; cascaded amplifiers (capacitance coupled, transformed coupled and video compensated); bandpass amplifiers; feedback amplifiers; feedback oscillators; two-port stability and power gain; and matrix analysis of linear circuits.
CONTENTS—Preliminary Considerations. Two-port Theory. Vacuum Tubes and Transistors as Two-ports. Effects of Frequency on Active Element Performance. Passive Two-port Networks. Lowpass Cascades. Bandpass Cascades. Feedback Configurations. Feedback Oscillators. Two-port Stability and Power Gain. Matrix Analysis of Networks.

CUTLER—Semiconductor Circuit Analysis

By PHILIP CUTLER, North American Aviation. *In Press*
This book is designed to provide an introduction to semiconductors and transistors for engineering technicians and for engineers whose primary concern is with practical applications. The text is design and circuit oriented to familiarize the reader with the transistor and its application in electronic circuits. While theoretical concepts are emphasized, they are made clear through detailed derivations with supporting explanations and illustrative examples.
CONTENTS—Semiconductor Physics. The Junction Diode. The Transistor. Biasing and Stabilization. Small Signal Equivalent Circuits and Analysis. Frequency Response and Other Considerations. Power Amplifiers. Feedback Principles and Applications. Power Supply Regulators.

DeWITT AND ROSSOFF—Transistor Electronics

By DAVID DEWITT, I. B. M. Data Processing Division, and ARTHUR L. ROSSOFF, Radio Receptor Company, Inc.
425 *pp.*, 6 *x* 9, 185 *illus.* (1957).....$9.00*c*
Gives electrical and electronic engineers a knowledge of quantitative transistor circuit design, based on a sound understanding of the internal workings of the transistor device. Semiconductor physics, properties of the transistor, and applications are covered.

GREINER—Semiconductor Devices and Applications

By RICHARD A. GREINER, University of Wisconsin. *Series in Elec. & Electron. Engg.*
493 *pp.*, 6 *x* 9, 471 *illus.* (1961)....$12.50*c*
This text thoroughly discusses the properties of semiconductors and junctions as a preliminary to the discussion of transistor operation. Characteristics and parameters are derived from basic physical concepts. Extensive application of transistors to a variety of small and large signal circuits is included. A detailed description of switching effects and switching circuits is presented.
CONTENTS—Preface. The Structure of Atoms and Solids. Particle Conduction in Solids. Semiconductor Physics. Electrical Conduction in Semiconductors. Practical Semiconductors. Contacts. Preparation, Properties, and Measurements. The Basic Mechanism. Junctions. Diodes. Transistors. Biasing and Stabilization. Transistor Characteristics. Small Signal Amplifiers. Power Transistor Parameters. Power Supplies. Oscillators. D.C. Amplifiers. Switching Transistors. Amplifiers. High Frequency and Switching Mode Switching Mode Circuits. Regenerative Switching Circuits. Postface. Appendixes: Units and Special Functions; Symbols; Matrixes; Parameter Interrelationships; Cain Formulas; Device Characteristics. References. Problems.

HUNTER—Handbook of Semiconductor Electronics

Edited by LLOYD P. HUNTER, University of Rochester. Prepared by a Staff of Specialists. Second Edition.
900 *pp.*, 6 *x* 9, 496 *illus.* (1962)....$18.50*hb*
Provides complete coverage of the physics of semiconductor device operation, transistor circuits, and device technology. Helps to prepare for practical circuit design and engineering

of applications utilizing transistors, diodes, or photocells. Second Edition thoroughly revised, with most sections completely rewritten by new authors presently working in the field. Covers microwave semiconductor application, and design of power supplies and power converters using semiconductor devices. Includes such modern advances as the Esaki tunnel diode, effects of radiation damage to semiconductors, vapor deposition of epitaxial material, doubly activated photoconductors, methods of device encapsulation, high-frequency applications of transistors, junction transistor oscillator circuits, and much more.

CONTENTS—Transistor Characteristics. Electronic Conduction in Solids. Rectification in Solids. Transistor Action. Photoconductivity and Photovoltaic Cells. Preparation of Semiconductor Materials. Methods of Preparing PN Junctions. Metal-semiconductor Contacts. Encapsulation. Device Design Considerations. Low-frequency Amplifiers. High-frequency and Video Amplification. D-C Amplifiers. Transistor Oscillators. Transistor Switching Circuits. Microwave Applications. Power Supplies. Methods of Circuit Analysis. Measurement of Semiconductor Device Parameters. Measurement of Semiconductor Parameters.

LINVILL—Models of Transistors and Diodes

By JOHN G. LINVILL, Stanford University.

200 *pp.*, 6 *x* 9, 139 *illus.* (1963) $7.95*c*

This book is written for the new generation of electronic engineers who are learning about transistors without first having extensive experience with vacuum tubes. It will give a secure understanding of the operating principles of transistor and diodes without relying on ideas developed in connection with other devices. The primary objective of the book is to obtain a set of circuit models which represent the terminal behavior of transistors in terms of internal physics.

LINVILL AND GIBBONS—Transistors and Active Circuits

By JOHN C. LINVILL AND JAMES F. GIBBONS, Stanford University. *Series in Elec. & Electron. Engg.*

515 *pp.*, 6 *x* 9, *illus.* (1961) $14.50*c*

Discusses fundamental problems encountered in active circuits, particularly those circuits in which the active element is a transistor. Part I presents the principles of operation of semiconductor devices. Circuit models for all orientations of the transistor, covering both large and small-signal applications, are derived directly from one lumped physical model (depicted), which simply and accurately represents the transistor. Part II presents a simple, comprehensive account of the theory of two-port structure. Part III employs the models derived and the network theory given, in Parts I and II, in the discussion of a representative group of transistor circuits, including both the linear amplifier and pulse circuits of the non-regenerative and regenerative varieties. Theory is emphasized, though examples which are typical of current practice are included.

CONTENTS—Part I—THE PHYSICS OF SEMICONDUCTORS. Structure and Carrier Density of Semiconductors. Representation of Physical Processes in Semiconductors. Behavior of pn Junctions. Diffusion Models of Diodes and Transistors. Drift Transistors. Glossary of Circuit Models of Transistors. Representation of Additional Physical Phenomena. Additional Semiconductor Devices. Part II—TWO-PORT NETWORK THEORY. Representation and Parameters of Linear Two-Port Models. Properties of Systems Containing Two-Port Elements. The Selection of Terminations for Optimizing the Power Gain of a Two Port. The Stability of Linear Systems. Sensitivity of Performance to Parameter Variations. Passive Terminations and Coupling Networks. Part III—TRANSISTOR CIRCUITS. Survey of Transistor Amplifiers. Contaminating Signals in Amplifiers. I-F Amplifiers. Video Amplifiers. Transistor Feedback Amplifiers. Non-regenerative Switching Applications of Transistors. Regenerative Switching Applications of Transistors.

PHILLIPS—Transistor Engineering

And Introduction to Integrated Semiconductor Circuits

By ALVIN B. PHILLIPS, Semiconductor Products Division, Motorola, Inc. *Series in Solid-State Engg.*

370 *pp.*, 6 *x* 9, *illus.* (1962) $12.50*i*

Provides a thorough working understanding of any transistor in use today—from early-grown junctions to the latest exitaxial-planar devices. Step-by-step, it explains principles of transistor theory and design and the relationship of all measured electrical characteristics to physical properties of transistor materials. The principles developed here are universally applicable and essential to the design of integrated semiconductor circuits. The book gives practical help in synthesizing any transistor design from designated electrical parameters from a designated transistor design. Without requiring previous knowledge of semiconductors, it guides you carefully from basics of solid-state physics to theory of p-n junctions and their electrical characteristics, from measurable properties of semiconductor materials to low-frequency characteristics of transistors and high-frequency performance.

CONTENTS—Preface. List of Symbols. Tables of Constants. Transistor Processes and Types. Atomic Structure and Energy-band Theory. Semiconductors. Properties of Semiconductor Crystals. p-n Junction Theory. Characteristics of p-n Junctions. Introduction to Transistors. Junction Transistor Theory. Characteristics of Junction Transistors. High-current Transistor Characteristics. Low-frequency Feedback Effects. Low-frequency h Parameters. High-frequency h Parameters. Frequency Response of Transistors. Junction-transistor Amplifiers. Junction-transistor Switches. Transistor Design Principles. Appendix: Analysis of the Equilibrium Lifetime for Single-level Recombination Centers. Index.

SPENKE—Electronic Semiconductors

By E. SPENKE. Translated by D. JENNY, H. KROEMER, E. C. RAMBERG, and A. H. SOMMER; RCA Laboratories.

402 *pp.*, 6 *x* 9, 184 *illus.* (1958) $12.50*i*

A translation of the second German edition of *Elektronische Halbleiter*, this book fills the need for a systematic and rigorous introduction to semiconductor physics. The reader is familiarized with the fundamentals of the important semiconductor devices such as rectifiers and the various transistor types.

CONTENTS—The Conduction Mechanism in Electronic Semiconductors. The Nature, Models and Reactions of Impurities and Imperfections. The Hole. The Mechanism of Crystal Rectifiers. The Physical Mechanism of Crystal Amplifiers. Approximation Methods in the Quantum Mechanics of the Hydrogen Molecule. The Band Model. FERMI Statistics of the Electrons in a Crystal. The Dynamic Approach to Impurity Equilibria and the Inertia of Impurity Reactions. Boundary Layers in Semiconductors and the Metal-Semiconductor Contact.

TEXAS INSTRUMENTS, INC.—Transistor Circuit Design

Edited by JACK MILLER.

523 *pp.*, 7⅛ *x* 9⅞, 554 *illus.* (1963) . $15.00*i*

Compiled by 39 members of the staff of Texas Instruments to aid the practicing circuit design engineer, this comprehensive book provides solutions to a wide range of basic circuit problems. Gives detailed coverage of the classification of junction transistors; device and circuit symbology; transistor specifications; nature of transistor quantities and parameters; measurement of electrical quantities and parameters; equivalent circuits and parameter

interrelationships; transistor biasing; and much more. Discusses and analyzes each circuit and device in mathematical terms wherever possible. Provides specific step-by-step instructions on how to design or compute a circuit or device.

TORREY AND WHITMER—Crystal Rectifiers
By HENRY C. TORREY and CHARLES A. WHITMER, Rensselaer Polytechnic Institute. Volume 15—*MIT Rad. Lab. Series.*
434 *pp.*, 6 *x* 9 (1948).....$8.95*r*
Discusses the theory, properties, manufacture, and use of the silicon and germanium point-contact rectifiers which have been developed for use as microwave converters and for other circuit applications. Treatment of the theory of semiconductors, of the semiconductor-metal contact, of frequency conversion by rectifiers and of noise generation by crystals is followed by engineering information on the production and use of practical crystal types.
CONTENTS—Introduction. Fundamental Properties of the Crystal Rectifier. Properties of Semiconductors. The Semiconductor—Metal Contact. Frequency Conversion. Noise Generation Loss and Noise Measurements. Burnout. Test Equipment. Manufacturing Techniques. Low-level Detection. High-inverse-voltage Rectifiers. Welded-contact Germanium Crystals. Appendix A: The Reciprocity Theorem of Dicke. Appendix B: Skin Effect at a Metal-semiconductor Contact. Appendix C: Speeding Resistance of an Elliptical Contact. Appendix D: Crystal-rectifier Types and Specifications.

VALDES—The Physical Theory of Transistors
By LEOPOLDO B. VALDES, Rheem Semiconductor Corporation. *Series in Elec. & Electron. Engg.*
370 *pp.*, 6 *x* 9, 180 *illus.* (1961)....$11.50*c*
Analyzes the flow of current through semiconductor materials and derives relationships between the electrical characteristics of transistors and their physical structure. The book is divided into three main sections: introductory or review material; the more physical aspects of transistor theory; the analysis of specific device structures and the electrical characteristics of diodes and transistors.
CONTENTS—Preface. INTRODUCTORY CONCEPTS. Introduction to Diodes and Transistors. Crystal Structure and Imperfections. Semiconductor Materials. Physical Basis for Transistor Behavior. ELECTRONIC PROPERTIES OF SEMICONDUCTOR MATERIALS. Electron Energies and Distributions. Fermi Level in Semiconductors. Conservation and Motion of Charge. Mobility and Lifetime of Electrons and Holes. Current Flow in Semiconductors. The Theory of Planar *p-n* Junctions. Current Flow in *p-n* Junctions. Thermoelectric, Optical, and Magnetic Effects. Surface Properties. PROPERTIES OF SEMICONDUCTOR DEVICES. Electrical Characteristics of Semiconductor Devices. Direct-Current Theory of Junction Transistors. Small-signal Transistor Theory. Transistors in High-frequency Amplifying and High-speed Switching Circuits. Special Structures and Other Factors Affecting Transistor Performance. INDEX.

WARSCHAUER—Semiconductors and Transistors
By DOUGLAS M. WARSCHAUER, Raytheon Manufacturing Company.
267 *pp.*, 6 *x* 9 (1959).....$7.50*c*
An intermediate-level text which describes the physical principles underlying the behavior of semiconductors, transistors, and other solid-state devices, as well as their application to various useful circuits. The author covers the physics pertinent to semiconductors, discusses their characteristics, and the way in which diodes and transistors operate by giving a description of the working of the basic p-n junction. Calculus is not used in presenting the concepts involved; physical concepts are discussed and clarified in elementary terms.
CONTENTS—Preface. Introduction. Currents, Fields, and Quanta. Atoms and Electrons. Crystal Structure. Band Formation. Metals, Semiconductors, Insulators. Impurity Semiconductors. Measurement of Semiconductor Characteristics. *p-n* Junctions. Transistors. Transistor Construction. Transistor Circuits. Circuit Theory. Grounded-emitter and Grounded-collector Theory. Other Circuit Representations. Amplifiers. Switches and Oscillators. High-frequency Effects. Non-transistor Devices. Appendix. Selected Bibliography. Index.

TRANSISTOR CIRCUITS LIBRARY $24.95*r*
Carroll—Modern Transistor Circuits
Carroll—Transistor Circuits and Applications
Carroll—Design Manual for Transistor Circuits

Industrial Electronics

CAGE—Theory and Application of Industrial Electronics
By J. M. CAGE, Hewlett-Packard Corp. *Elec. & Electron. Engg. Series.*
290 *pp.*, 6 *x* 9, *illus.* (1951).....$7.95*cL*
A methodical development of principles underlying the entire field of industrial electronics. The purpose of the book is to develop sets of concepts on basic circuits and sound techniques to prepare engineers for research work, design work, application work, and sales work in industrial electronics. A valuable reference volume for those engaged in industries using electronic controls.
CONTENTS—Electrical Symbols. Polyphase Rectifiers. Grid Control Circuits for Gas Tubes. Amplifiers for Industrial Electronics. Regulators and Servomechanisms. Dynamics of Closed-loop Systems. Electronic Control of Motors and Generators. Basic Timing Circuits. Ignitrons and Thyratrons as Line Switches. Resistance Welding Controls. Induction Heating. Dielectric Heating. A Survey of Electronic Measurements. Oscillators and Pulse Techniques. Miscellaneous Principles and Applications. Appendix. Index.

CHUTE—Electronics in Industry
By GEORGE M. CHUTE, University of Detroit. Second Edition.
431 *pp.*, 6 *x* 9, *illus.* (1956).....$8.00*cL*
Presents the basic fundamentals of electronic devices as needed by men in industry, and explains how these devices are used in practical circuits. The uses of vapor or gas tubes are stressed. Several laboratory electronic instruments are discussed, as well as the many nonelectronic devices often used in electronic equipment. There is little use of mathematics beyond simple arithmetic in example problems.
CONTENTS—Preface. Symbols of Devices. Choosing Electronics for Your Needs. How Electricity Passes Through an Electron Tube. Simple Rectifiers—Alternating Current into Direct Current. Control of Electron Flow within a Tube. Time-delay Action. Tubes in A-C Circuits. The A-C Time-delay Relay. Multigrid Vacuum Tubes. Filtering. D-C Power Supply for Tube Circuits. Gas Tubes. Control of Larger Currents. Simple Welding Control. Ignitron Contactor. Thyratron Tubes. Gradual Control of Thyratrons by Phase Shifting. Resistance-welding Controls. Light and Heat Relays. Heating and Light-dimming Controls. Simple Speed and Voltage Regulators. Large-current Polyphase Rectifiers. High Frequencies and Shorter Wavelengths. Amplifiers, Oscillators, Inverters. The Electronic Heater. Temperature Recorders. High-speed Light Relays. Register Controls. Thy-Mo-Trol-Automatic Tube Control of D-C Motors. Closed-loop Systems. Servomechanisms. Electronic Service Instruments. Nonelectronic Devices Visual Bibliography. Answers to Problems. Index.

DUMMER, BRUNETTI, AND LEE—Electronic Equipment Design and Construction
By G. W. A. DUMMER, Royal Radar Establishment, CLEDO BRUNETTI, Food Machinery and Chemical Corp., and L. K. LEE, Space Technology Labs, Inc.
250 *pp.*, 6 *x* 9, 47 *illus.* (1961).....$10.50

Feedback-system Analysis. *L*-transform Solution of Partial Differential Equations. Fourier Series. Fourier Transforms. Systems with Random Inputs: The Direct Description. Systems with Random Inputs: The Frequency Description. Difference Equations and *Z* Transforms. Introduction to Mellin Transforms and a Summary of Transform Methods. Appendix A—Complex Variables. Appendix B—Tabulation of *L* Transforms. Index.

CHEN—The Analysis of Linear Systems

By WAYNE H. CHEN, University of Florida. *Elec. & Electron. Engg. Series.*

677 *pp.*, 6⅜ *x* 9¼, 322 *illus.* (1963) $16.00*c*

This book presents the important concepts, principles, and techniques for linear systems analysis in a thoroughly systematic manner. The presentation is confined to the analysis of linear lumped-constant networks and linear control systems. Physical concepts are stressed and discussed along with mathematical techniques for comprehension as well as engineering applications. This work uniquely develops and uses the same mathematical techniques and models in the analysis of both linear networks and control systems.

CONTENTS—Preface. INTRODUCTION AND NETWORK FUNDAMENTALS. Introduction. Methods of Loop and Nodal Analysis. Concept of Complex Frequency: Network Functions and Network Characteristics. CHARACTERIZATION OF NETWORKS. Network Parameters and Methods of Interconnecting Networks. Some Topical Aspects of Networks. Equivalency, Duality, and Reciprocal Networks. FREQUENCY ANALYSIS OF EXCITATION AND RESPONSE. Fourier Series and Fourier Integral. Applications of Fourier Series and Fourier Integral in Frequency Analysis. Study of Network Responses with the Fourier Transform. Graphic Method of Obtaining Transfer Network Characteristics. STUDY OF NETWORK RESPONSES USING LAPLACE TRANSFORMATION METHODS. Laplace Transformation as Applied to Elementary Functions and Operations. Laplace Transformations of Integrodifferential Equations. Network Response and Poles of Its Laplace Transform. STUDY OF NETWORK RESPONSES WITH SUPERPOSITION INTEGRALS. THE USE OF SIGNAL-FLOW DIAGRAMS AS A TOOL IN NETWORK ANALYSIS. Description of Transistor Amplifiers—For Later Use in Signal-flow Analysis and Stability Study. The Signal-flow Diagram. Analysis of Transistor Amplifiers with the Signal-flow Method. STABILITY PROBLEMS OF CLOSED-LOOP CONTROL SYSTEMS. Conditions of Stability. Nyquist Criterion for Stability. Description of Some Simple Closed-loop Control Systems. Methods of Compensation for Improving Stability and Accuracy.

CHEN—Linear Network Design and Synthesis

By WAYNE H. CHEN, Univ. of Florida. *Series in Elec. & Electron. Engg.*

In Press

This book presents important concepts, principles, and techniques for linear system analysis in a thoroughly systematic manner. The presentation is confined to the analysis of linear lumped-constant networks and linear control systems. Physical concepts are stressed and discussed along with mathematical techniques for comprehension as well as engineering applications.

CONTENTS—Introduction and Network Fundamentals. Characterization of Networks. Frequency Analysis of Excitation and Response. Study of Network Responses Using Laplace Transformation Methods. Study of Network Responses with Superposition Integrals. The Use of Signal-flow Diagrams as a Tool in Network Analysis.

PAPOULIS—The Fourier Integral and Its Applications

By ATHANASIOS PAPOULIS, Polytechnic Institute of Brooklyn. *Electron. Sc. Series.*

327 *pp.*, 6 *x* 9, 204 *illus.*.....$10.75*c*

This book presents an economical and unified treatment of a wealth of topics related to the Fourier integral. Its outstanding feature is the organization of the material and the simplicity and clarity of presentation. The author develops the theoretical concepts with rigor unusual in engineering texts, but avoids the mathematical elaboration that is of no interest to applied scientists.

CONTENTS—Preface. PART ONE: *Introduction:* Fourier Analysis. The Laplace Transform. Linear Systems. Singularity Functions. The Fourier Transform in Probability Theory. *Basic Theorems and Examples:* The Fourier Integral. Special Forms of the Fourier Integral. Simple Theorems. Examples. The Convolution Theorem. On the Proof of the Fourier-integral Theorem. *Singularity Functions and Line Spectra:* Basic Examples. Fourier Series. Poisson's Sum Formula. Periodic-frequency Spectra. Sampling Theorem. *Numerical Techniques and Uncertainty Principle:* Evaluation of the Fourier Transform. Evaluation of the Inversion Integral. Approximate Evaluation of the Convolution Integral. Duration of a Signal and Uncertainty Principle. Generalization of the Uncertainty Principle. Problems. PART TWO: *Linear Systems:* Definitions. The System Functions. Evaluation of the Step Response. *Low-Pass Filters:* Definitions. Amplitude Distortion. Causal Systems with Linear Phase. Phase Distortion. Summary. *Bandpass Filters:* Symmetrical Systems. Modulated Input. Unsymmetrical Systems. Modulated Input. Group, Phase, and Signal-front Delay. Group, Phase, and Signal-front Velocity. The Principle of Stationary Phase. *Spectrum Analyzers:* Simultaneous Spectral Analysis. Sequential Spectral Analysis. Periodic Signals. Problems. PART THREE: *The Laplace Transform:* The Unilateral Laplace Transform. Relationship Between the Fourier Integral of a Causal Function and the Unilateral Laplace Transform. Minimum-phase-shift Functions. A Simple Method of Evaluating the Energy of a Signal. Causality Conditions. Problems. PART FOUR: *Positive Functions and Limit Theorems:* The Density Function. Repeated Convolution. The Central-limit Theorem. Error Correction. *Generalized Harmonic Analysis, Correlation, and Power Spectra:* Introduction. Finite Energy Signals. Finite Power Signals. Functions with Arbitrary Power Spectra. Generalized Harmonic Analysis. Problems. Appendices. Index.

PFEIFFER—Linear Systems Analysis

An Introduction to the Analysis of Discrete-Parameter Time-Invariant Linear Systems

By PAUL E. PFEIFFER, Rice University.

538 *pp.*, 6 *x* 9, 221 *illus.* (1961).....$13.00*c*

Providing a theoretical core of fundamentals requisite to the understanding of the behavior of a wide class of physical systems, this book includes discussion of passive linear circuits, linear electronic circuits, linear servomechanisms, and mechanical vibrating systems. Emphasis has been given to the concept of impedance operators, phasor transformation, the method of the Laplace transform, the unit impulse, poles, zeros and components of response, the bound on system response, unstable systems and feedback theorems.

CONTENTS—Preface. Introduction. A Mathematical Miscellany: Complex Variables; Polynomials and Rational Functions; Determinants and Algebraic Equations; Miscellaneous. Linearized Dynamic Equations: Discrete-Parameter Electrical Networks; Discrete-Parameter Mechanical Systems; Electromechanical and Other Systems; Generalizations. Steady-State Response to Periodic Driving Functions: Sinusoidal Response; Fourier Series; Steady-State Periodic Response. An Introduction to the Method of the Laplace Transformation Systems with One Degree of Freedom. Some Systems with Several Degrees of Freedom. Some Mathematical Properties of the Laplace Transformation: Definitions and Fundamental Theorems; Relation to Other Integral Transformations: Theorems for Application; The Unit Impulse and Impulsive Functions. The Transfer Function. Matrices and Linear Algebraic Equations: Definitions and Basic Algebra; Extensions and Applications. Signal Flow Graphs and Linear Algebraic Equations. Some Theorems on Feedback; An Analytical Treatment of Feedback; The Nyquist Stability Criterion; The Effect of More than One Branch. Bibliography. Index.

SAVANT—Fundamentals of the Laplace Transformation

By C. J. SAVANT, JR., University of Southern California; Hughes Tool Company, Aircraft Division. With tables by EZRA C. LEVY, Space Technological Laboratories.

240 *pp.*, 6 *x* 9, 156 *illus.* (1962).....$7.75*c*

Presenting the transform method of analysis from the point of view of the engineer rather than the mathematician, the author provides a fine text for the undergraduate course, emphasizing a fundamental and basic approach in a simple, easy style which will appeal to the engineering student. The book covers the Laplace transform method of solution of differential equations which arise in connection with electrical, mechanical, and electromechanical systems. Mechanical and electrical circuit analysis and all mathematics are included. Problems are included at the end of each chapter. There is a wealth of engineering examples, from mechanics, electronics, and electromechanical systems, showing how the method is used.

CONTENTS—INTRODUCTION TO LAPLACE TRANSFORMS. Preliminaries. Solution by Integration. Classical Solution of Ordinary Differential Equations with Constant Coefficients (OLDEWCC). Laplace Transform Solution of OLDEWCC. The Transform Pair. Laplace Transforms of Functions. Laplace Transform of Operations. Laplace Transforming OLDEWCC. ELECTRICAL CIRCUIT EQUATIONS. Kirchhoff's Laws and Definitions. Loop Circuit Analysis. Solution of Loop Circuits with R, L, and C Elements. Mutual Inductance. Writing and Solving R, L, and C Networks with the Nodal Method. Initial Conditions. Generalized Loop and Node Equations. Combined Loop and Node Solutions. Duality Between the Loop and the Node Method. Exchange of Sources. Active Elements in Network Analysis. Sinusoidal Steady-State Analysis. MECHANICAL SYSTEMS. Newton's Laws. Mechanical Elements. Mechanical Systems—Translational Motion. Mechanical Systems—Rotational Motion. Mechanical Coupling—Gear Trains. Sinusoidal Frequency Response of Mechanical Systems. Generalized Mechanical Equations. Analogies. ELECTRO-MECHANICAL SYSTEM EQUATIONS. Introduction. Electro-Magnetic Forcer. Control Motors. Gyroscopes. THE INVERSE LAPLACE TRANSFORMATION. Introduction. Use of Laplace Transform Tables. Partial Fractions. Inversion by Partial Fractions. Graphical Considerations in Inversion. The Inversion Integral. THE SOLUTION OF ORDINARY DIFFERENTIAL EQUATIONS. Introduction. The Linear First-Order Differential Equation. Higher Order Linear Homogeneous Differential Equations. Examples of Higher Order Linear Homogeneous Equations. Examples of a Second Order Inhomogeneous Equation. Integro-Differential Equations. Numerical Example. LAPLACE TRANSFORM THEOREMS. Linearity. Complex Translation. Real Translation. Real Differentiation. Real Integration. Complex Differentiation. Complex Integration. Second Independent Variable. Periodic Functions. Change of Scale. Real Convolution. Final and Initial Value Theorem. Extensions to Complex Functions. S-PLANE ANALYSIS. Introduction. Solution of a Second Order System. Location of the Roots of the Characteristic Equation. Routh-Hurwitz Stability Criterion. Block Diagram and Feedback Systems. Root Locus Analysis. Bibliography. Appendix: Use of Determinants; Complex Variable Theory; Theoretical Considerations; Roots of Equations; Table of Laplace Transform Pairs; A Table of Laplace Transform Pairs by Ezra C. Levy.

SKILLING—Transient Electric Currents

By H. H. SKILLING, Stanford University. *Elec. & Electron. Engg. Series.* Second Edition.

356 *pp.*, 6 *x* 9, 105 *illus.* (1952)....$8.95*c*

The book gives as much as most undergraduate courses require on transient circuit analysis, including analysis by the Laplace transformation method. Emphasis is on basic principles. General methods of the solution of transient problems are discussed, with many specific examples. All necessary mathematics beyond ordinary calculus is carefully explained as it is illustrated.

CONTENTS—Introduction. The Transient State. The Behavior of Inductance. The Behavior of Condensers. The Circuit Equations. The Complete Single Circuit. Networks. Response to Alternating Voltage. Coupled Resonant Circuits. Circuits with Variable Parameters. Traveling Waves. Laplace Transformation. Index. Table of Exponentials. Index.

STEWART—Fundamentals of Signal Theory

By JOHN L. STEWART, University of Arizona. *Elec. & Electron. Engg. Series.*

346 *pp.*, 6 *x* 9, 120 *illus.* (1960)....$10.50*r*

This text brings into focus the several mathematical techniques of importance in understanding excitation and response of linear systems. Depending on underlying physical principles, the treatment begins with elementary principles in which specialized analytical tools are derived in the course of the discussion. The author gradually develops a relatively advanced level of understanding and sophistication.

CONTENTS—Preface. Systems and Vectors. Systems Equations. Poles and Zeros. Additional Pole-Zero Concepts. An Introduction to Approximation. Operational Methods. The Direct Laplace Transformation. Contour Integration. Further Aspects of Complex Variable Theory. Fourier Series and Discrete Spectra. Fourier Integrals and Continuous Spectra.

ZADEH AND DESOER—Linear System Theory

By LOTFI A. ZADEH, and CHARLES A. DESOER, both Univ. of California, Berkeley. *Series in Syst. Sc.*

640 *pp.*, 6 *x* 9, 163 *illus.* (1963)....$15.00*c*

Outstanding for its reasearch orientation, this book presents the state space approach as the unifying concept of linear system theory. The book is abstract in not being tied to specific physical realizations or fields of application, but all important concepts and results are illustrated by applications, examples, and concepts. State, system equivalence and linearity are integral to the theoretical development. The modes of description and properties of linear systems are stressed which are fundamental in engineering. Systems characterized by differential equations are emphasized. Time-varying and periodically varying differential systems are discussed. Contains original material and recent research developments.

CONTENTS—Language, Notation and Basic Concepts of System Theory. Concepts and Properties Associated with State and State Equations. Linearity and Time-invariance. State Vectors and State Equations of Time-invariant Differential Systems. Linear Time-Differential Invariant Systems. Linear Time-varying Differential Systems. Stability of Linear Differential Systems. Impulse Response of Nondifferential Linear Systems. Transfer Functions and Their Properties. Discrete-time Systems. Controllability and Observability. Appendixes.

Non-linear Analysis

CUNNINGHAM—Introduction to Nonlinear Analysis

By W. J. CUNNINGHAM, Yale University. *Elec. & Electron. Engg. Series.*

349 *pp.*, 6 *x* 9, 169 *illus.* (1958).....$10.50*c*

Provides the scientist and engineer with information concerning methods for finding solutions for nonlinear differential equations having a single independent variable. This text represents a compilation of a number of mathematical procedures which have previously been scattered throughout the literature. Methods considered include those which can be applied with only modest facilities. Numerical, graphical, and analytical methods are considered, and many examples of physical systems are given illustrating both techniques of solution and the unusual types of phenomena which may arise.

CONTENTS—Preface. Introduction. Numerical Methods. Graphical Methods. Equations with Known Exact Solutions. Analysis of Singular Points. Analytical Methods. Forced Oscillatory Systems. Systems Described by Differential-difference Equations. Linear

Differential Equations with Varying Coefficients. Stability of Nonlinear Systems. Problems. Bibliography. Index.

Communication Engineering

DAVIES—Magnetic Tape Instrumentation

By GOMER L. DAVIES, Consulting Engineer.

263 *pp.*, 6 *x* 9, 86 *illus.* (1961).....$9.50*i*

Describes the methods used for data recording and reproduction, with their potentialities and limitations, and stresses the effects of machine imperfections on recorded and reproduced data. Covers basic principles of magnetic recording, machine characteristics, proper tape handling, design of equipment, and such recording techniques as FM carrier, pulse duration modulation, compound modulation, carrier-erase recording, and dital pulse recording.

CONTENTS—Brief History of Magnetic Tape Instrumentation Applications. Fundamentals of Recording and Reproduction. Techniques Used in Data Recording. Tape Transport Mechanisms. Tape Motion Irregularities. Compensation of Flutter and Skew Errors. Speed Control Systems. Electronic Equipment for Recording and Reproducing. Heads and Head Stacks. Magnetic Tape Systems. Magnetic Drums, Disks, and Other Devices.

MARKUS AND ZELUFF—Electronics for Communication Engineers

Edited by JOHN MARKUS and VIN ZELUFF, *Electronics.*

624 *pp.*, 8½ *x* 11, *illus.* (1952).....$12.50*i*

Scores of circuits, equations, charts, nomographs, and other data in 16 major electronic fields selected from outstanding articles in *Electronics.* Includes chapter on electronic music, giving design data and circuit details of both commercial and custom-built electronic organs.

CONTENTS—Amplifiers. Antennas. Audio. Cathode-ray Tubes. Components. Electronic Music. Filters. Measurements. Microwaves. Oscillators. Power Supplies. Propagation. Pulses. Receivers. Transmission Lines. Transmitters.

CUCCIA—Harmonics, Sidebands, and Transients in Communication Engineering

By C. LOUIS CUCCIA, RCA Laboratory Division, Princeton, New Jersey. *Elec. & Electron. Engg. Series.*

451 *pp.*, 6 *x* 9, *illus.* (1952).....$14.00*r*

An advanced, specialized mathematics book for communication engineers. The subjects treated fall into three major categories as follows: an introduction to Fourier Series, Fourier Integrals and LaPlace Transform methods of analysis; application of these methods of analysis to the treatment of many of the circuits used in the communication systems; the Fourier analysis of many of the types of modulated waves used in communication systems. It is the only book which systematically treats the analysis of radio and television transmission from the pick-up system, through transmission and demodulation, to the output, making the work invaluable for broadcast and communication engineers.

STEWART—Magnetic Recording Techniques

By W. EARL STEWART, The Standard Register Company.

268 *pp.*, 6 *x* 9, 150 *illus.* (1958)....$10.00*i*

A practical guide to the technology of magnetic recording methods and devices for engineers and technicians concerned with their application in audio, TV, communications, computers, and other fields. Emphasizing the basic knowledge needed to attain best performance, the book gives a sound, realistic coverage of the principles of the recording and reproducing processes, recording materials (including the theory of ferromagnetism), recording mechanisms, and established design standards.

CONTENTS—The Magnetic Recording Process. Magnetic Recording Media. The Magnetic Reproducing Process. Magnetic Recording Mechanisms. Ferromagnetism. Magnetic Recording Standards. Appendices. Index.

Radio Engineering

HENNEY—Radio Engineering Handbook

Edited by KEITH HENNEY, Prepared by a staff of specialists. Fifth Edition.

1800 *pp.*, 6 *x* 9, 1636 *illus.* (1959)..$25.00*hb*

A comprehensive working manual of radio science providing information on each of the branches of radio engineering. Each chapter is the work of one or more experts who emphasize working practice, final working formulas, dimensions, and actual usable circuits. In this Fifth Edition almost three-quarters of the material is new or thoroughly rewritten for greater usefulness. Chapters have been added on diodes, high-frequency tubes, transistors, non-linear circuits, high-frequency measurements, radio transmitters, wire telegraphy, and wire telephony. In addition, there is new material in chapters on the basis of radio communication, resistance, audio-frequency circuits, oscillators, power supplies, facsimile, and navigation aids.

KELSO—Radio Ray Propagation in the Ionosphere

By JOHN M. KELSO, Electro-Physics Laboratories. ACF Industries, Inc. *Electron. Sc. Series.*

In Press

This book presents an advanced study of the theory of radio propagation in the ionosphere. Because of the homogeneous, dispersive, refractive, and turbulent properties of the ionosphere, radio propagation through this medium leads to a rich variety of problems whose solutions are important to radio rays. Topics covered include: Propagation in a homogeneous medium; physics of the ionosphere; dispersion relations and wave equations; ray theory—neglecting the earth's magnetic field; and ray theory—including the earth's magnetic field. Major use will be among physicists, electronic engineers, and experimenters in radio ray propagation fields.

JASIK—Antenna Engineering Handbook

Edited by HENRY JASIK, President, Jasik Laboratories, Inc. Prepared by a staff of specialists.

1013 *pp.*, 6 *x* 9, 928 *illus.* (1961)..$23.50*hb*

Provides essential principles, methods, and data to help the antenna design engineer solve a wide range of problems connected with his everyday work. Includes detailed discussion of various types of antennas, their characteristics, and basic applications. In addition, the book offers a great deal of information on topics associated with antenna engineering.

CONTENTS—Properties of Antennas. Fundamentals of Antennas. Characteristics of Linear Antenna Elements. Long-wire Antennas. Arrays of Linear Elements. Loop Antennas. Helical Antennas. Slot Antennas. Slot-Antenna Arrays. Horn Antennas. Corner-reflector Antennas. High-gain Reflector-type Antennas. Passive Reflectors. Lens-type Radiators. Scanning Antennas. Surface- and Leaky-wave Antennas. Methods of Obtaining Circular Polarization. Frequency-independent Antennas. Low-frequency Antennas. Medium-frequency Broadcast Antennas. High-frequency Arrays. VHF and UHF Communication Antennas. TV and FM Transmitting Antennas. TV Receiving Antennas. Radar

Antennas. Microwave Beacon Antennas. Aircraft Antennas. Direction-finding Antennas. Radio-telescope Antennas. Transmission Lines and Waveguides. Impedance Matching and Broadbanding. Radomes and Absorbers. Radio Propagation Fundamentals. Antenna Measurements. Mechanical Considerations in Antenna Design.

JOINT TECHNICAL ADVISORY COMMITTEE—Radio Spectrum Conservation

A Program of Conservation Based on Present Uses and Future Needs

Prepared by the JOINT TECHNICAL ADVISORY COMMITTEE (Institute of Radio Engineers and Radio-Television Manufacturers Association).

218 *pp.*, 5½ *x* 8, 9 *illus.* (1952).....$5.00*r*

Reviews the properties of radio transmission, in as simple language as the subject permits, and outlines the course to be followed to bring its benefits to the largest possible number of the world's people. The book makes the point that the radio spectrum is a public resource requiring the same wise conservation practiced with forests, farmlands, and mineral wealth.

CONTENTS—Introduction. Part I. HISTORY OF THE ALLOCATION OF THE RADIO SPECTRUM. Part II. PROPAGATION CHARACTERISTICS OF THE RADIO SPECTRUM. Part III. AN IDEAL APPROACH TO ALLOCATIONS. Part IV. A CRITIQUE OF THE PRESENT ALLOCATIONS. Part V. DYNAMIC CONSERVATION OF SPECTRUM RESOURCES. Part VI. BIBLIOGRAPHY. Index.

KRAUS—Antennas

By JOHN D. KRAUS, Ohio State University. *Elec. & Electron. Engg. Series.*

553 *pp.*, 6 *x* 9, 405 *illus.* (1950)....$12.50*c*

A unified treatment of antennas from the electromagnetic theory point of view. Emphasis is on the aspects that are of engineering importance. The principles given are basic, and they are applied to antennas for all frequency ranges.

CONTENTS—Introduction. Point Sources. The Antenna as an Aperture. Arrays of Point Sources. The Electric Dipole and Thin Linear Antennas. The Loop Antenna. The Helical Antenna. The Biconical Antenna and Its Impedance. The Cylindrical Antenna: Its Current Distribution and Impedance. Self- and Mutual-Impedances. Arrays of Linear Antennas. Reflector-type Antennas. Slot, Horn, and Complementary Antennas. Lens, Long-wire, and Other Types of Antennas. Antenna Measurements. Bibliography.

LYTEL—Two-way Radio

By ALLAN LYTEL, U.S. Electronics Publications, Inc., Syracuse.

278 *pp.*, 6 *x* 9 (1959).....$10.50*i*

A complete guide to two-way radio—from a typical radio system and its many uses in business and industry, to transmitters and receivers, circuit details, selective calling methods, and methods of installation, trouble shooting, and repair. Gives you an introduction to the theory and practice of voice-modulated radio communications that covers mobile (vehicle) and base-station (fixed) radio transmitters and receivers, plus the related test equipment.

CONTENTS—An Introduction to Two-way Radio. Principles of Modulation. FM Transmitters. FM Receivers. AM Transmitters and Receivers. Antennas. Selective Calling. Power Supplies. Installation. Test Equipment. Servicing.

NATIONAL ASSOCIATION OF BROADCASTERS—Engineering Handbook

Editor-in-Chief, A. PROSE WALKER, Manager of Engineering, National Association of Broadcasters. Fifth Edition.

1200 *pp.*, 6 *x* 9, *illus.* (1960).....$27.50*hb*

Covers the entire broadcasting system—both radio and television—giving authoritative information on the antenna and tower, transmission line, transmitter, studio-transmitter link, studio, remote pickup facilities, and nationwide network facilities. Includes recent advances such as transistor applications, color television, television translators and boosters, remote control of broadcast transmitters and directional antennas, compatible single-sideband for standard broadcasting, video-tape recording, and more. The approach is practical but with sufficient theoretical treatment to form a sound basis for further study.

CONTENTS—Rules, Regulations, and Standards. Antennas, Towers, and Wave Propagation. Transmitters. Program-transmission Facilities. Color-television Facilities. Studio Facilities. Remote-pickup Facilities. Measurements, Techniques, and Special Applications. Charts and Graphs.

RADIO RESEARCH LABORATORY STAFF—Very High Frequency Techniques

Prepared by the Staff of the Radio Research Laboratory, Harvard University, Division 15, N.D.R.C., under the editorship of HERBERT J. REICH, Yale University, and developed under the sponsorship of the Office of Scientific Research and Development. Two volumes (not sold separately).

1057 *pp.*, 6 *x* 9, 904 *illus.* (1947)...$19.00*r*

Presents a summary of the methods, theories, and circuits used by the Radio Research Laboratory of Harvard University that will be of wide interest to radio engineers and physicists.

CONTENTS—Broad-band Antennas. Ultrahigh-frequency Measurements. Impedance Matching Transformers and Baluns. Cone and Cylinder Antennas. Sleeve Antennas. Horns and Reflectors. Slot Antennas. Auxiliary Devices for Antennas. Principles of Direction Finding. Antennas for Direction Finders. Homing Systems. Introduction to Power Generation. Triode and Pentode Ultra-frequency Oscillators. Coaxial-line Power Amplifiers and Oscillators. Power Output Causing Modulation of High-frequency Power Oscillators. General Design Considerations of High-power Ultrahigh-frequency Triode and Tetrode Oscillators. The Resnatron. Principles of Magnetron Operations. Operating Characteristics of *C-W* Magnetrons. Description, Characteristics, and Operation of Typical Cavity Magnetrons. Externally Tuned Magnetron Oscillators. Power-measuring Devices for Ultrahigh Frequencies. Receivers—General Considerations. Principles of Transmission—Line Filter Design. Design of Transmission Line Filters. Tuners for Microwave Receivers. Detectors and Mixers. Local Oscillators. I. General Considerations and Butterfly Oscillators. Local Oscillators. II. Reflex Klystron Oscillators. Local Oscillators. III. Wide-bank Coaxial-line Resonators. Intermediate-frequency Amplifiers. Receiver Output Circuits. Measuring Equipment for Receivers.

TATARSKI—Wave Propagation in a Turbulent Medium

By V. I. TATARSKI, Member, Institute of Atmospheric Physics of the Academy of Sciences of the USSR. Translation by RICHARD A. SILVERMAN, Institute of Mathematical Sciences New York University.

285 *pp.*, 7½ *x* 9⅞, 50 *illus.* (1961)...$9.75*c*

Here is a comprehensive study of phenomena associated with the propagation of electromagnetic and acoustic waves through atmospheric turbulence. Theoretical and experimental comparisons are made. Special emphasis is placed upon recent important Russian contributions to this field, which have not previously been published in the English language. Application to many practical problems such as phase and amplitude fluctuations, scintillations of stars and radio scattering is discussed.

CONTENTS—Translator's Preface. Author's Preface. PART I: SOME TOPICS FROM THE THEORY OF RANDOM FIELDS AND TURBULENCE THEORY. Methods for Statistical Description of Continuous Random Fields. The Microstructure of Turbulent Flow. Microstructure of the Concentration of a Conservative Passive Additive in a Turbulent Flow. PART II: SCATTERING OF ELECTROMAGNETIC AND ACOUSTIC WAVES IN THE TURBULENT

ATMOSPHERE. Scattering of Electromagnetic Waves in the Turbulent Atmosphere. The Scattering of Sound Waves in a Locally Isotropic Turbulent Flow. PART III: PARAMETER FLUCTUATIONS OF ELECTROMAGNETIC AND ACOUSTIC WAVES PROPAGATING IN A TURBULENT ATMOSPHERE. Solution of the Problem of Amplitude and Phase Fluctuations of a Plane Monochromatic Wave by Using the Equations of Geometrical Optics. Calculation of Amplitude and Phase Fluctuations of a Plane Monochromatic Wave from the Wave Equation Using the Methods of "Small" and "Smooth" Perturbations. Parameter Fluctuations of a Wave Propagating in a Turbulent Medium with Smoothly Varying Characteristics. Amplitude Fluctuations of a Spherical Wave. PART IV: EXPERIMENTAL DATA ON PARAMETER FLUCTUATIONS OF LIGHT AND SOUND WAVES PROPAGATING IN THE ATMOSPHERE. Empirical Data on Fluctuations of Temperature and Wind Velocity in the Layer of the Atmosphere Near the Earth and in the Lower Troposphere. Experimental Data on the Amplitude and Phase Fluctuations of Sound Waves Propagating in the Layer of the Atmosphere Near the Earth. Experimental Investigation of the Scintillation of Terrestrial Light Sources. Twinkling and Quivering of Stellar Images in Telescopes. Appendix. Notes and Remarks. References.

TERMAN—Radio Engineers' Handbook

By FREDERICK E. TERMAN.

1019 *pp.*, 6 *x* 9, 869 *illus.* (1943)..$15.00*hb*†

Here is a comprehensive and detailed reference work for all in the radio engineering profession or whose work touches on problems of research, design, or application in this field. Both in the ground covered in preparation of the book and in the 1500 references to technical articles and publications included in the book, it represents an organized and substantially complete interpretation of the engineering literature of radio that has appeared in English.

CONTENTS—Tables, Mathematical Relations, and Units. Circuit Elements. Circuit Theory. Vacuum Tubes and Electronics. Vacuum-tube Amplifiers. Oscillators. Modulation and Demodulation. Power-supply Systems. Radio Transmitters and Receivers. Propagation of Radio Waves. Antennas. Radio Aids to Navigation Measurements.

ZELUFF AND MARKUS—Electronics Manual for Radio Engineers

By VIN ZELUFF and JOHN MARKUS.

879 *pp.*, 8½ *x* 11 (1949).....$17.50*i*

Provides the practical circuit information needed by practicing engineers; the mathematical foundations needed by radio design engineers and researchers; the measuring and operating techniques needed by radio operators, technicians, and maintenance men for putting radio equipment into use and keeping it at peak efficiency. Includes articles for radio production men on quality control, inspection procedures and production-floor test equipment.

CONTENTS—Antennas. Audio. Circuit Theory. Components. D-C Amplifiers. Filters. Ionosphere. Measurements. Microwaves. Power Supplies. Production. Receivers. Television. Transmission Lines. Transmitters. Tubes. Index.

Television Engineering

GLASFORD—Fundamentals of Television Engineering

By GLENN M. GLASFORD, Syracuse University. *Elec. & Electron. Engg. Series.*

642 *pp.*, 6 *x* 9, *illus.* (1955).....$9.95*c*

Gives an excellent theoretical coverage of the entire field of television including recent developments such as UHF, binary sync generators, and vidicon tubes. It is the first book to appear since the adaptation of NTSC color; the first book to have material relating to color and color systems integrated fully into the rest of the book rather than as an unrelated topic.

CONTENTS—Elements of a Television System. Visual Characteristics, Color Specification, and Signal Analysis. Fundamentals of Electron-beam Scanning. Image-pickup and Output Circuits. Visual-display Tubes. Video Amplifiers. Transient Analysis of Circuits. Wide-band Radio-frequency Amplifiers. The Transmitter-Receiver Relationship. Signal-circuit Problems and Techniques. Scanning Circuits. Synchronization and Picture-signal Standards. Circuits Involved in Timing and Synchronizing Operations. The Synchronizing Signal Generator. Television Camera and Signal Processing Equipment. Elements of Video Transmitters and Radiating Systems. Television-receiver Fundamentals and Design.

CHINN—Television Broadcasting

By HOWARD CHINN, Columbia Broadcasting System. *Series in TV.*

695 *pp.*, 6 *x* 9, 342 *illus.* (1953)....$12.50*i*

A practical and comprehensive technical guide to the equipment, systems, facilities, good engineering practices, and operating techniques of television broadcasting.

CONTENTS—Television-system Fundamentals. The Image Orthicon Camera. Field Television Equipment. Field Pickup Techniques. Synchronizing Waveform Generators. Studio Television Equipment. Studio Lighting, Staging, and Camera Techniques. Projector Camera Chains. Television Projectors. Motion-picture Film. Television Recording. Program Transmission Systems. Television Transmitters. Studio Building Planning. Equipment Installation Practices. Measurements. Color-television Broadcasting Equipment.

DOME—Television Principles

By ROBERT B. DOME, General Electric Company. *Series in TV.*

281 *pp.*, 6 *x* 9, 85 *illus.* (1951).....$9.50*i*

Principles and theory of all stages of television transmission and reception—from the origin of the picture signal to its reproduction at the receiver tube. The book emphasizes basic principles of television transmitter and receiver design so that the reader will be provided with sufficient tools to cope with new designs and specifications as they arise.

CONTENTS—Early History of Television and Some Fundamental Conceptions. Electronic Methods of Scanning and Reproduction. Video-frequency Amplifiers. Radio Transmitting Apparatus. Antennas for Transmission and Reception. Radio-frequency Input Circuits and Noise Factors. Intermediate-frequency Amplifiers. Picture Second Detector. The Scanning System. Miscellany. Propagation and Relays. Index.

FINK—Television Engineering Handbook

Editor-in-Chief, DONALD G. FINK, Institute of Electrical and Electronic Engineers, and a staff of specialists.

1483 *pp.*, 6 *x* 9, 1159 *illus.* (1957).$12.95*hb*†

This new handbook covers the entire field of television technology, including the basic fundamentals as well as practical design data for transmitter, receivers, and networks. Equal attention is given to black-and-white and to color television. The treatment is simple, concise, and not overly technical, making it a comprehensive and ready source of the technical information needed every day by engineers and technicians.

CONTENTS—Numbers, Equations, and Definitions. Television Standards. Monochrome Vision. Photometry, Illumination, and Optics. Color Vision and Colorimetry. Cathode-ray Devices. Scanning, Deflection, and Color Registration. Synchronization of Scanning and Color Coding. Transmission of Monochrome Information. Transmission of Chrominance Values. Composite Video-signals, Waveforms, and Spectra. Video Amplification and D-C Restoration. Wide-band Amplification (Radio and Intermediate Frequency). Wideband Modulation and Demodulation. Wave Propagation, Radiation, and Absorption. Television Receiver Circuit Functions and Block Diagrams. Television Receivers—Circuit Design and Component Specification. Camera Chains and Related Equipment: 1. Monochrome Systems 2. Color Terminal Equipment. Coaxial Cables, Microwave Links, Relays, and Networks. Television Transmitters and Auxiliary Equipment. Transmission Lines and Radiators.

† *Textbook edition available at educational list price.*

WENTWORTH—Color Television Engineering
By JOHN W. WENTWORTH, RCA Engineering Products Division, Radio Corporation of America. *McGraw-Hill Television Series.*
448 *pp.*, 6 *x* 9, 296 *illus.* (1955) $11.00*iL*
A practical grounding in the complex techniques of color television for those already familiar with monochrome TV. Goes from basic principles of color and color sensation to actual transmitters, studio equipment, and receivers used for color. Color TV is explained in nonmathematical form, and block diagrams are used extensively.
CONTENTS—BASIC PRINCIPLES OF COLOR. COLOR PERCEPTION, AND COLOR MEASUREMENT. The Physical Aspects of Color. The Psychological Aspects of Color. Colorimetry—The Measurement and Specification of Color. PRINCIPLES OF COLOR REPRODUCTION. The Application of Colorimetry to Color Television. Color Photographic Processes. Transfer Characteristics in Color Reproducing Systems. PRINCIPLES OF COLOR TELEVISION TRANSMISSION SYSTEMS. Color Television as an Information Transfer Problem. Multiplexing Techniques for Compatible Color Television Systems. Time-Multiplex or Sequential Color Television Systems. APPARATUS AND CIRCUITS FOR COLOR TELEVISION. Color Television Pickup and Transmission Equipment. Color Television Kinescopes and Receivers. Color Television Test Equipment.

Information, Communication and Noise Theory

ABRAMSON—Information Theory and Coding
By NORMAN ABRAMSON, Stanford Univ. *Electron. Sc. Series.*
201 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963) $7.95*c*
A precise and readable book devoted to all of the important concepts of information theory. The implications of information theory have been extended to an increasingly wide group of sciences. Most books in this area have been severely mathematical or limited to a treatment of communication theory. In order to present a generalized development without omitting proofs of the basic ideas, the treatment here is limited to information sources and information channels with a finite number of inputs and outputs. Mathematics has been used only where necessary, and prerequisites include only logarithms and some familiarity with the concept of an average value. Calculus is not used. The book has applications in electrical engineering, operations research, or the social sciences.
CONTENTS—Introduction. Information and Sources. Some Properties of Codes. Coding Information Sources. Channels and Mutual Information. Reliable Messages Through Unreliable Channels. Appendix: Tables. Bibliography. Index.

BAGHDADY—Lectures on Communication System Theory
Edited by ELIE J. BAGHDADY, Adcom, Inc., Cambridge, Mass.
617 *pp.*, 6 *x* 9, 129 *illus.* (1960) $13.50*r*
Here for the first time is a collection of topics which are of fundamental importance to the development of a modern discipline of communication theory. The purpose of the book is to stimulate the development of modern approaches to the design and evaluation of new communication systems by defining a skeleton for the needed discipline and discussing most of the major unsolved problems. Discussions are theoretical, with emphasis on methods of applying mathematical models and techniques to the design, analysis, and evaluation of reliable systems. Each chapter is written by an expert of recognized authority.
CONTENTS—Introduction: Communication System Design by W. B. Davenport, Jr. Probability Theory in Communication System Engineering by D. B. Brennan. Signals in Linear Time-invariant Systems by W. M. Siebert. Channel Characterization: Basic Approach by Walter E. Morrow, Jr. Channel Characterization: Rapid Multiplicative Perturbations by Herbert Sherman. Channel Characterization: Time-variant Dispersive Channels by Thomas Kailath. Diversity Techniques by E. J. Baghdady. Statistical Decision Theory and Communications: The More General Formulation by W. L. Root. Representation of Signals by R. M. Lerner. Design of Signals by R. M. Lerner. Sequential Reception of Time-variant Dispersive Transmissions by J. M. Wozencraft, with Appendix by T. Kailath on "Estimation and Correlation Detection for Time-variant Random Channels." Coding and Decoding by Peter Elias. Feedback Communication Systems by P. E. Green, Jr., with Appendix by P. Elias on "Channel Capacity without Coding." Characterization of Noise in Receiving Systems by R. P. Rafuse. Microwave Applications of Semiconductors by Arthur Uhler, Jr. Masers and Low-noise Systems by R. H. Kingston. Performance Criteria of Speech Systems by Irwin Pollack. Analog Modulation Systems by E. J. Baghdady. System Design for Long-term Variations by D. O. Brennan. Communication Link Design by W. E. Morrow, Jr. Communication Using Earth Satellites by J. B. Wiesner. Conclusion: Present Trends by R. M. Fano.

BALAKRISHNAN—Space Communications
Edited by A. V. BALAKRISHNAN, UCLA, *Univ. of Cal. Engg. & Sc. Exten. Series.*
411 *pp.*, 6 *x* 9, 177 *illus.* (1963) $14.50*r*
This book provides a study of the fundamental physical problems, and a representative compilation of the knowledge and experience gained in the design of space communication systems. The emphasis is on the physical and engineering considerations that are peculiar to space communications including data processing, noise sources, relevant communication theory, components, subsystems and complete systems for space probes and orbiting satellites for communications and meteorology.

BENNETT—Electrical Noise
By W. R. BENNETT, Data Communications Consultant, Bell Telephone Laboratories, Inc.
280 *pp.*, 6 *x* 9, 106 *illus.* (1960) $11.00*i*
The important facts about noise in a form intelligible to the practicing engineer. Emphasis is given to physical sources, experimental procedures, and closely associated theoretical aids. Thermal noise in its relation to electric circuit theory, methods of generating and measuring noise, useful applications of noise, calculations of noise figures for amplifiers, the Haus-Adler theory, and derivations of signal-to-noise ratios for the various modulation methods in use are discussed.
CONTENTS—Preface. General Properties of Noise. Thermal Noise. Distribution of Magnitudes in Noise Sources. Noise in Vacuum Tubes. Noise in Semiconductors. Noise in Electromagnetic Radiation. Noise Generating Equipment. Noise Measurements and Techniques. Design of Low Noise Equipment. Application of Fourier Analysis to Noise Problems. Noise in Communication Systems.

DAVENPORT AND ROOT—Introduction to Random Signals and Noise
By WILBUR B. DAVENPORT, JR. and WILLIAM L. ROOT, Massachusetts Institute of Technology. *Linc. Lab. Pub.*
393 *pp.*, 6 *x* 9, 85 *illus.* (1958) $12.75*c*
An *introduction* to the statistical *theory* underlying a study of signals and noises in communications systems. Emphasis is placed on techniques as well as results. Parts of probability theory and the modern theory of random processes are developed in a way suitable for an engineering reader. This material is applied to give a coherent treatment of many basic communications engineering noise problems. The chief departure in treatment is the replacing of various *ad hoc* methods of treating random signals and noise by a *consistent set of*

methods from the theory of random processes. CONTENTS—Preface. Introduction. Probability. Random Variables and Probability Distributions. Averages. Sampling. Spectral Analysis. Shot Noise. The Gaussian Process. Linear Systems. Noise Figure. Optimum Linear Systems. Nonlinear Devices: The Direct Method. Nonlinear Devices: The Transform Method. Statistical Detection of Signals. Appendix 1—The Impulse Function. Appendix 2—Integral Equations. Bibliography. Index.

FEINSTEIN—Foundations of Information Theory

By AMIEL FEINSTEIN, University of Illinois. *Elec. & Electron. Engg. Series.*

135 *pp.*, 6 *x* 9 (1958).....$7.50*r*

Provides a concise but rigorous exposition of the fundamentals of the mathematical theory of information. Information theory can be divided into two fairly distinct branches—the first deals with the general properties of channels of various types, proving various theorems concerning their suitability for transmitting information, while the second deals with the actual implementation of those general theorems. The main tool used in Chapters 1–4 and 7 is the probability theory of finite systems. The mathematical prerequisite for Chapters 5 and 6 is the notion of a general probability space; the mathematical apparatus required for this is the theory of measure and the general Lebesque integral.

CONTENTS—Preface. Introductory Concepts. Basic Properties of H(X). The Discrete Channel Without Memory. The Coding Theorem for Discrete Channels Without Memory. The Semi-continuous Channel Without Memory. The Discrete Channel With Memory. The Binary Symmetric Channel. Remarks. References.

GOLDMAN—Frequency Analysis, Modulation, and Noise

By STANFORD GOLDMAN, Syracuse University.

446 *pp.*, 6 *x* 9, 182 *illus.* (1948).....$10.50*i*

This book is a mathematical text dealing with certain phases of radio engineering which have become especially important with the development of television and radar. It covers the subjects of Fourier series and Fourier integral analysis, the theory of modulation, and the theory of random noise. It emphasizes physical principles and practical applications. Its purpose is to enable radio engineers to understand and apply in their own work the subjects mentioned above.

CONTENTS—Introduction. Fourier Series. Radio Applications of Fourier Series. Fourier Integrals. Radio Applications and Physical Interpretation of Fourier Integral Analysis. Modulation. Noise I: General and Practical Discussion and the Solution of Noise Problems. Noise II: Basic Mathematical Phenomena. Noise III: Shot Effect. Noise IV: Thermal Noise. Appendixes. Index.

HANCOCK—An Introduction to the Principles of Communication Theory

By JOHN C. HANCOCK, Purdue University. *Series in Elec. & Electron. Engg.*

253 *pp.*, 6 *x* 9, 214 *illus.* (1961).....$9.50*c*

Introduces the basic concepts of non-deterministic or random time functions and their application to the analysis and synthesis of communication systems, for the undergraduate level student. Basic fundamentals are stressed throughout the book rather than specific devices or systems. Numerous examples illustrate the application of the theory covered.

CONTENTS—Preface. THE FREQUENCY AND TIME DOMAIN. Introduction. The Discrete Spectrum. The Continuous Spectrum. Dirac Delta Function. Frequency and Time Domain Relationships. Sampling Theory. Sampling Approximations. MODULATION. Introduction. Amplitude Modulation. Angle Modulation. Frequency Modulation. Multiplexing. Pulse Modulation. Pulse Amplitude Modulation. Pulse Duration Modulation. Pulse Position Modulation. Pulse Code Modulation. Summary. RANDOM SIGNAL THEORY. Introduction. Discrete Probability Theory. Continuous Random Variables. Statistically Independent Random Variables. Examples of Probability Density Functions. Density Functions of Sums. Transformations. Density Functions with Discrete Components. Ergodic Processes. Autocorrelation Functions. Spectral Density. White Noise. NETWORK ANALYSIS. Introduction. Elementary Network Analysis. Networks with Random Inputs. Autocorrelation Input-Output Relationships. Probability Density Input-Output Relationships. Nonlinear Systems. Envelope of Sine Wave Plus Gaussian Noise. Optimum Systems. The Maximum Signal-to-noise Ratio Criterion. The Minimum Mean-square Error Criterion. Equivalent-noise Bandwidth. BASIC INFORMATION THEORY. Introduction. The Discrete System. The Discrete Noiseless Channel. Discrete Noisy Channels. The Continuous System. Comparison of Existing Systems. NOISE. Introduction. Atmospheric Noise. Thermal Noise. Shot Noise in Temperature-limited-diodes. Shot Noise in Space-charge Limited Diodes. Shot Noise in Triodes. Partition Noise. Other Types of Noise. Noise Figure. Minimum Noise-figure Networks. Experimental Determination of Noise Figure. COMMUNICATION SYSTEMS. Introduction. Signal-to-noise Ratio in Linear Envelope Detectors. Signal-to-noise Ratio in PCM Systems. Comparison of Modulation Systems. The Radar System. The Radar-range Equation. Radar Detection. Doppler Radar. INDEX.

HARMAN—Principles of the Statistical Theory of Communication

By WILLIS A. HARMAN, Stanford University.

304 *pp.*, 6 *x* 9, 194 *illus.* (1963).....$10.50*c*

This book is designed as a text for a senior or first year graduate course introducing the field of statistical communication theory. Its purpose is to prepare the student to read the literature in this field and to give him a reasonable amount of facility in setting up problems in statistical terms. Part I discusses the problem of finding suitable description of determined and random signals and includes a review of relevant portions of Fourier integral and probability theory. Part II deals with the description of signals in terms of their information content, and with the concepts of channel capacity and coding which follow from this. Part III has to do with the analysis of system with random excitations. In Part IV the matter of system synthesis is taken up, using a decision theory approach. Throughout, the emphasis is on understanding basic concepts in their simplest terms, rather than acquiring detailed information on current practice of existing systems.

CONTENTS—Introduction. Representation of Nonrandom Signals. Representation of Random Signals. The Concept of Information Measure. The Discrete Channel. The Continuous Channel. Mathematical Representations of Random Noise. Analysis of Linear Systems. Systems with Nonlinear Elements. Introductory Discussion of Decision Concepts. Hypothesis Testing. Parameter Estimation, with Applications to Signal Reception and Radar. Bibliography. Index.

KOTEL 'NIKOV—The Theory of Optimum Noise Immunity

By T. A. KOTEL 'NIKOV, U.S.S.R. Translated by R. A. SILVERMAN, New York University.

140 *pp.*, 6 *x* 10, *illus.* (1960).....$7.95*i*

This book presents an analysis of the effect of noise on correct reception in an arbitrary communication system, determines what the ideal theoretical performance might be, and then discusses how closely practical communication systems approach this. The author's approach is always that of a practical engineer; he invokes only the most elementary notions from probability theory, the steps in his analysis are easy to follow, and his primary intention is to establish the behavior of communications systems on a level that is useful to the engineer.

CONTENTS—Author's Preface. Explanatory Note. AUXILIARY MATERIAL. Introduction. Auxiliary Mathematical Material. TRANSMISSION OF DISCRETE MESSAGES. The Ideal Receiver for Discrete Signals. Noise Immunity for Signals with Two Discrete Values. Noise Immunity for Signals with Many Discrete Values.

TRANSMISSION OF SEPARATE PARAMETER VALUES. General Theory of the Influence of Noise on the Transmission of Separate Parameter Values. The Optimum Noise Immunity of Various Systems for Transmitting Separate Parameter Values in the Presence of Low Intensity Noise. Noise Immunity for Transmission of Separate Parameter Values in the Presence of Strong Noise. TRANSMISSION OF WAVEFORMS. General Theory of the Influence of Weak Noise on the Transmission of Waveforms. Direct Modulation Systems. Pulse Modulation Systems. Integral Modulation Systems. Evaluation of the Influence of Strong Noise on the Transmission of Waveforms. Appendices. A. The Specific Energy of High-frequency Waveforms. B. Representation of Normal Fluctuation Noise by Two Amplitude-modulated Waves. C. The Instantaneous Value of Normal Fluctuation Noise. D. Normal Fluctuation Noise Made Up of Arbitrary Pulses.

MIDDLETON—An Introduction to Statistical Communication Theory

By DAVID MIDDLETON, Consulting Physicist. *Int'l Series in Pure & App. Physics.*

1140 *pp.*, 6 *x* 9, 272 *illus.* (1960) $27.50*r*

A work of unusual interest, concerned with the rapidly evolving field of statistical communication theory: the application of modern statistical methods to the random phenomena (messages, signals, and noise), that influence and control the design, operation, and evaluation of communication systems. Although the specific treatment is directed mainly toward electronic and electrical systems, such as radio, radar, etc., the general methods and philosophy described are applicable in other areas of communication science, as well.

CONTENTS—PART 1. AN INTRODUCTION TO STATISTICAL COMMUNICATION THEORY. Statistical Preliminaries. Operations on Ensembles. Spectra, Covariance, and Correlation Functions. Sampling, Interpolation, and Random Pulse Trains. Signals and Noise in Nonlinear Systems. An Introduction to Information Theory. PART 2. RANDOM NOISE PROCESSES. The Normal Random Noise Process: Gaussian Variates. The Normal Random Process: Gaussian Functionals. Processes Derived from the Normal. The Equations of Langevin, Fokker-Planck, and Boltzmann. Thermal, Shot, and Impulse Noise. PART 3. APPLICATIONS TO SPECIAL SYSTEMS. Amplitude Modulation and Conversion. Rectification of Amplitude-modulated Waves: Second-moment Theory. Phase and Frequency Modulation. Detection of Frequency-modulated Waves, Second-moment Theory. Linear Measurements, Prediction, and Optimum Filtering. Some Distribution Problems. PART 4. A STATISTICAL THEORY OF RECEPTION. Reception as a Decision Problem. Binary Detection Systems Minimizing Average Risk; General Theory. Binary Detection Systems Minimizing Average Risk; Examples. Extraction Systems Minimizing Average Risk: Signal Analysis. Information Measures in Reception. Generalizations and Extensions. Special Functions and Integrals. Solutions of Selected Integral Equations. SUPPLEMENTARY REFERENCES AND BIBLIOGRAPHY. GLOSSARY OF PRINCIPAL SYMBOLS. NAME INDEX. SUBJECT INDEX.

REZA—An Introduction to Information Theory

By F. M. REZA, Syracuse University. *Series in Elec. & Electron. Engg.*

496 *pp.*, 6 *x* 9, 141 *illus.* (1961) $14.00*c*

Constitutes a nucleus for a fundamental study of communication systems—including all telecommunication equipment, computers and numerous other devices employed for the transmittal and processing of information in any form. One of the basic attributes of the Theory demonstrates that it is possible to develop highly reliable communication procedures and techniques even when using unreliable channels. This self-contained, integrated volume includes the latest information available on the theory, and covers essential aspects of existing literature up to the time of publication.

CONTENTS—Preface. Introduction. Part I. DISCRETE SCHEMES WITHOUT MEMORY. Basic Concepts of Probability. Basic Concepts of Information Theory. Elements of Encoding. Part II. CONTINUUM WITHOUT MEMORY. Continuous Probability Distribution and Density. Statistical Averages. Normal Distributions and Limit Theorems. Continuous Channel Without Memory. Transmission of Band-limited Signals. Part III. SCHEMES WITH MEMORY. Stochastic Processes. Communication Under Stochastic Regimes. Part IV. SOME RECENT DEVELOPMENTS. The Fundamental Theorem of Information Theory. Group Codes. APPENDIX. Additional Notes and Tables. INDEX.

SCHWARTZ—Information Transmission, Modulation, and Noise

A Unified Approach to Communication Systems

By MISCHA SCHWARTZ, Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series. Brooklyn Polytechnic Institute Series.*

454 *pp.*, 6 *x* 9, 312 *illus.* (1959) $12.50*c*

A senior or first-year graduate level text which stresses the basic unity inherent in modern information transmission of information—nonzero time response or finite bandwidth and noise. The significance of these two limitations is explored in a representative group of modulation systems. Thus, the author draws upon and unifies the material in networks and electronics taught in the junior year. There are approximately 250 problems ranging from simple numerical exercises to detailed step-by-step problems which extend the material in the text.

CONTENTS—Preface. Introduction to Information Transmission. Transmission through Electric Networks. Modulation and Modulation Systems. Periodic Sampling and Pulse Modulation. Noise. Comparative Analysis of Information-transmission Systems. Statistical Methods in Analysis of Information-transmission Systems. Index.

Pulse Circuits and Radar

BLITZER—Basic Pulse Circuits

By RICHARD BLITZER, RCA Institutes.

448 *pp.*, 6 *x* 9, 257 *illus.* (1963) $8.75*c*

Covers the electronic pulse circuitry used in such advanced equipment as radar, computers, and guided missiles. Written at technician level, the book clearly explains each circuit theory, using only the necessary minimum of mathematics involved. No calculus is required. The book employs the current flow-negative to positive-approach. Circuits are explained through the theoretical pursuit of electrons. The theory of electronic pulse circuits is presented with fully worked-out examples of their application in advanced equipment.

CONTENTS—Network Circuits. Pulse Amplifiers. Linear Wave Shaping. Wave Shaping, Non-Linear. Multivibrators. Time Base Oscillators and Generators. Binary and Octal Systems and Electronic Counters. Gates. Some Applications of Pulse Circuits. Miscellaneous Circuits. Transient Analysis. Book of References. Answers to Problems.

JAMIESON, PLASS, McFEE, GRUBE, AND RICHARDS—Infrared Physics and Engineering

By JOHN A. JAMIESON, Aerojet General Corporation. GILBERT N. PLASS, Southwest Center for Advanced Studies, Dallas, RAYMOND H. McFEE, ROBERT H. GRUBE, and ROBERT G. RICHARDS, Aerojet General Corporation. *Inter-Univ. Electron. Series.*

688 *pp.*, 6 *x* 9, 234 *illus.* (1963) $19.00*i*

This book is designed to provide a basic understanding of the physical background and engineering considerations required for the design of infrared systems. The subject matter has been chosen to assist engineers, physicists, and mathematicians in their daily design work. To assist infrared practitioners with advanced training in the field, current state-of-the-art knowledge is discussed and summarized in each chapter. Major topics covered include: origin and characteristics of infrared radia-

tion; transmission of infrared radiation through the atmosphere; backgrounds and targets; spectral characteristics of radiation emitted by various natural and man-made sources; types of infrared detectors and their methods of operation; and much more. Treatment of each topic is in rigorous mathematical terms.

LEVINE—Radargrammetry

By DANIEL LEVINE, Consulting Engineer.

330 *pp.*, 6 x 9, 220 *illus.* (1960).....$12.75*i*

Explains the principles of system design for a specified error distribution in radar measurement. Covers mathematical cartography, essential characteristics of important map projections, radar display in relation to different map projections, relief displacement, radar parallax, analysis of target displacement, and other topics. In addition, modern advances are described such as the theory of linear apertures for optical systems as stated by Schade—Swerling's analysis of angular accuracy of a pulsed radar system—Enenstein's and Bailin's work on a transient build-up of antenna patterns, applied to determining the minimum ground area resolved by a linear array—and the analysis of azimuthal resolution on a simple statistical basis.

CONTENTS—The PPI as a Map. Cartography. The Radar Display and Standard Map Projections. Relief Displacement and Radar Parallax. Elementary Theory of Radar Return. Additional Aspects of Design.

REINTJES AND COATE—Principles of Radar

By Members of the Staff of the Radar School, Massachusetts Institute of Technology. Third Edition by J. FRANCIS REINTJES and GODFREY T. COATE, Massachusetts Institute of Technology. Third Edition.

750 *pp.*, 6 x 9, 634 *illus.* (1952).....$9.50*c*

Deals with the fundamental concepts and techniques of pulse radar. It presents the engineering principles of the pulse circuits and the high-frequency devices common to nearly all radar systems. It covers basic concepts pertaining to transmission lines, waveguides, cavity resonators, and antennas, and the techniques of their use in radar systems.

CONTENTS—PULSED RADAR. TIMING CIRCUITS. A. Clipping Circuits. B. R-C Circuits. C. R-L-C Circuits. MODULATORS. A. Pulse Formation by Networks and Switches. B. Line-pulsing Modulators. C. Driver-power-amplifier Modulators. INDICATORS. A. Cathode-ray Tubes. B. Sweep-voltage Circuits. C. Sweep-current Circuits. SYNCHROS AND SERVOMECHANISMS. A. Synchros. B. Servomechanisms. RECEIVERS. A. General Principles. B. Component Circuits. RADIO-FREQUENCY TRANSMISSION LINES. WAVEGUIDES. RESONANT LINES AND CAVITIES. HIGH-FREQUENCY TRIODE OSCILLATORS. KLYSTRONS AND MAGNETRONS. A. Klystrons. B. Magnetrons. RADIO-FREQUENCY TRANSMITTING AND RECEIVING SYSTEMS. ANTENNAS. PROPAGATION. Index.

RHODES—Introduction to Monopulse

By DONALD R. RHODES, Radiation, Inc., Orlando, Florida.

119 *pp.*, 6 x 9, 54 *illus.* (1959).....$7.50*i*

This monograph represents the first general treatment of the concept of monopulse. It was written to acquaint the student and practicing engineer with the principles of monopulse, and to suggest new ideas for further development to those already actively engaged in the field. The emphasis is on concepts rather than specific systems, though a few representative systems are included to illustrate ways in which the basic concepts may be implemented.

CONTENTS—Preface. Symbols. Introduction to the Monopulse Concept. A Unified Theory of Monopulse. Monopulse Systems. Dual Plane Monopulse. Monopulse Antenna Principles. Class I System Characteristics. Appendix—Form of the Angle Detection Function. Bibliography. Index.

STRAUSS—Wave Generation and Shaping

By LEONARD STRAUSS, Assistant Professor of Electrical Engineering, Polytechnic Institute of Brooklyn. *Brooklyn Polytechnic Institute Series. Elec. & Electron. Engg. Series.*

520 *pp.*, 6 x 9, 460 *illus.* (1960)....$12.50*c*

Using a developmental approach, this text treats the various circuits used for wave generation and shaping in a unified manner instead of analyzing each as a separate entity. Illustrative examples and a large number of home problems add to the effective organization, resulting from extensive, highly successful classroom experimentation with notes over a period of several years.

CONTENTS—Preface. MODELS AND SHAPING. Linear Wave Shaping. Diode Wave-shaping Techniques. Diode Gates. Simple Triode, Transistor, and Pentode Models and Circuits. TIMING. Simple Voltage Sweeps. Linearity, and Synchronization. Vacuum-tube Voltage Sweeps. Linear Transistor Voltage Sweeps. Linear Current Sweeps. SWITCHING. Plate-grid and Collector-base Coupled Multivibrators. Emitter-coupled and Cathode-coupled Multivibrator. Negative-resistance Switching Circuits. The Blocking Oscillator. MEMORY. Magnetic and Dielectric Devices as Memory and Switching Elements. OSCILLATIONS. Almost Sinusoidal Oscillations—The Linear Approximation. Negative-resistance Oscillators.

MILLMAN AND TAUB—Pulse and Digital Circuits

By JACOB MILLMAN, Columbia University, and HERBERT TAUB, The City College of The City of New York. *Elec. & Electron. Engg. Series.*

712 *pp.*, 6 x 9, 650 *illus.* (1956).....$14.00*c*

This text provides a description and an analysis of the circuits and techniques which are common to many of the newer fields of electrical engineering. It begins with an analysis of the response of linear networks, both active and passive, to the types of waveforms commonly encountered in pulse circuits. The basic nonlinearities of tubes and semi conductor devices are described and then the effects of these nonlinearities on waveform transmission are studied. Fundamental waveform generating circuits are analyzed in detail. Finally, the basic building blocks, with which the reader is now familiar, are assembled into pulse and digital systems such as radar, television, and digital computers.

CONTENTS—Preface. Review of Amplifier Circuits. Linear Wave Shaping: RC, RL, and RLC Circuits. Linear Pulse Amplifiers. Nonlinear Wave Shaping. The Bistable Multivibrator. Monostable and Astable Multivibrators. Voltage Time-base Generators. Current Sweep Circuits. Pulse Transformers and Blocking Oscillators. Electromagnetic Delay Lines. Counting. Synchronization and Frequency Division. Digital Computer Circuits. Transmission Gates. Voltage Comparators. Time Modulation and Measurement. Pulse Systems. Transistors in Pulse and Digital Circuits. Problems. Appendix: Tube Characteristics. Index.

CADY, KARELITZ, AND TURNER—Radar Scanners and Radomes

Edited by W. M. CADY, United States Naval Ordnance Test Station, Pasadena Area, M. B. KARELITZ, General Precision Laboratory, Inc., and L. A. TURNER, Argonne National Laboratory. Volume 26—*MIT Rad. Lab. Series.*

492 *pp.*, 6 x 9, 175 *illus.* (1948).....$10.00*r*

The first part of this book takes up the problems of mechanical and electrical engineering and of servo design which underlie the design of scanners for practical radar sets. The second part is devoted principally to the practical mechanical, electrical, and aerodynamic problems of the design of radomes (housings for scanners).

CONTENTS—Introduction. Crystallography. Crystal Elasticity. Rotated Axes and Transformation of Elastic Constants. Vibration of Crystals. Elastic Constants of Crystals. Dielectric Properties of Crystals. Principles of Piezoelectricity. Special Piezoelectric Properties of Certain Crystals. Production and Measurement of Piezoelectric Effects. Alternative Formulations of Piezoelectric Theory. Secondary Piezoelectric Effects. The Piezoelectric Resonator. The Electrical Equivalent of the Piezo Resonator. The Dynamic Measurement of Piezo Electric and Equivalent Electric Constants. Properties and Technique of Quartz. The Quartz Resonator. Resonators from Other Crystals and Composite Resonators. The Piezo Oscillator. Rochelle Salt: History, General Properties, and Technique. Rochelle Salt: Piezoelectric Observations. Rochelle Salt: Dielectric Observations. Theory of Rochelle Salt, Part I. Interaction Theory and Dielectric Properties. Theory of Rochelle Salt, Part II. Piezoelectric and Elastic Properties, Curie-Weiss Laws, and Conclusions. The Domain Structure of Rochelle Salt. Internal-field Theory of Seignette-electric Crystals. Other Siegnette-electric Crystals. Miscellaneous Applications of Piezoelectricity. Pyroelectricity. Piezo-optic, Electric-optic, and other Optical Effects. Piezoelectricity in the Light of Atomic Theory. APPENDIX. Ferromagnetism. Index.

CHANCE, HULSIZER, MacNICHOL, AND WILLIAMS—Electronic Time Measurements

Edited by BRITTON CHANCE, University of Pennsylvania, R. I. HULSIZER, University of Illinois, E. F. MACNICHOL, The Johns Hopkins University, and F. C. WILLIAMS, Manchester University. Volume 20—*MIT Rad. Lab. Series.*

528 *pp.*, 6 *x* 9 (1949).....$11.00*r*

This book opens with a survey of the use of precision timing methods in distance finding with detailed designs of precision ranging circuits depending upon both manual and automatic control. The second part treats electrical circuits using supersonic delay elements for the cancellation of recurrent waveforms as used in moving target indication systems. The third part presents several precision methods for data transmission employing pulse timing techniques.

CONTENTS—Introduction. Radio Distance and Speed Measurements. Technique of Pulse Time Measurements. Generation of Fixed Indices. Generation of Movable Indices—Single-scale Circuits. Generation of Movable Indices—Circuits. Techniques of Automatic Time Measurement. Systems for Automatic Time and Position Measurement. Special Data—Transmission Systems. Relay Radar Systems. Delay and Cancellation of Recurrent Wave Trains. Glossary. Index.

CHANCE, WILLIAMS, HUGHES, SAYRE, AND MacNICHOL—Waveforms

Edited by BRITTON CHANCE, University of Pennsylvania, F. C. WILLIAMS, Manchester University, V. W. HUGHES, Columbia University, D. SAYRE, Alabama Polytechnic Institute, and E. F. MACNICHOL, JR., The Johns Hopkins University. Volume 19—*MIT Rad. Lab. Series.*

776 *pp.*, 6 *x* 9, *illus.* (1949).....$13.50*r*

Describes the generation and use of precisely controlled voltages and currents having varied time dependence and duration. Waveforms of precisely adjustable duration are emphasized.

CONTENTS—Introduction. Operations on Waveforms with Linear Circuit Elements. Operations with Nonlinear Circuit Elements. Sinusoidal Waveform Generators. Generation of Fast Waveforms. Blocking Oscillators and Delay-line Pulse Generators. Generation of Triangular Waveforms. Generation of Special Waveforms. Amplitude Selection, Comparison, and Discrimination. Time Selection. Electrical Amplitude Modulation. Electromechanical Modulators. Time Modulation. Amplitude and Time Demodulation. Sinusoidal Frequency Multipliers and Dividers. Pulse-Recurrence—Frequency Division. Counting. Mathematical Operations on Waveforms. Oscilloscopic Techniques in Waveform Measurement. Storage Tubes. Electrical Delay Lines. Supersonic Delay Device. Bibliography. Appendixes. Glossary. Index.

GLASOE AND LEBACQZ—Pulse Generators

Edited by G. N. GLASOE, Brookhaven National Laboratory, and JEAN V. LEBACQZ, Stanford University.

Volume 5—*MIT Rad. Lab. Series.*

728 *pp.*, 6 *x* 9, 502 *illus.* (1948)....$12.50*r*

Deals with the theoretical and practical aspects of the generation of power pulses. Pulse powers in the range of 100 watts to 20 megawatts and pulse durations from 0.03 to 10 microseconds are considered.

CONTENTS—Introduction. Part I. The Hard-tube Pulser: The Output Circuit of a Hard-tube Pulser. The Discharge of the Storage Condenser. The Charging of the Storage Condenser. Power Transfer to the Load. Vacuum Tubes as Switches. Driver Circuits. Particular Applications. Part II. The Line-type Pulser: The Pulse-forming Network. The Discharging Circuit of the Line-type Pulser. Switches for Line-type Pulsers. The Rotary Spark Gap. Enclosed Fixed Spark Gaps. The Hydrogen Thyratron. The Charging Circuit of the Line-type Pulser. Inductance Charging from a D-C Power Supply. Inductance Charging from an A-C Source. Performance of Line-type Pulsers. Pulser Performances with a Magnetron Load. Particular Applications. Part III. Pulse Transformers: Elementary Theory of Pulse Transformers. Pulse-transformer Design. Effects of Pulse-transformer Parameters on Circuit Behavior. Materials and Their Uses in Design. Core Material. Coil Material. A. Measuring Techniques. Oscilloscopic Methods. Metering Technique. B. Pulse Duration and Amplitude. Index.

HACKFORTH—Infrared Radiation

By HENRY L. HACKFORTH, Northrop Corporation.

303 *pp.*, 6 *x* 9, *illus.* (1960).....$12.50*i*

Explains exactly what infrared radiation is and what it does. Analyzes a typical infrared system and discusses the components of such a system, the laws of physics by which it operates, and the materials involved. Clearly described are the limitations, the problems encountered, and the scope and future possibilities of infrared radiation. In addition, infrared instruments and their applications are fully covered.

CONTENTS—The Nature of Infrared Radiation. Basic Physical Laws and Principles. Infrared Radiation Sources. Atmospheric Transmission of IR Radiation. IR Optical Components and Systems. Optical Materials. Infrared Detectors. Infrared System Design Considerations. Infrared Instruments. IR Applications in the Sciences. IR Applications in Industry. Applications of IR in Space Technology.

HALL—Radar Aids to Navigation

By JOHN S. HALL, Amherst College. Volume 2—*MIT Rad. Lab. Series.*

839 *pp.*, 6 *x* 9, 191 *illus.* (1947)....$10.00*r*

For radar engineers, technicians, and operators this detailed survey describes the advantages and immediate uses of radar equipment when applied to problems of navigation pilotage, whether the equipment is airborne, shipborne, or ground-based.

CONTENTS—Introduction. Part I. Principles of Radar: How Radar Works. Propagation. Indicators. Radar Beacons. Nonradar Navigational Methods. Loran and Other Navigational Nets. Part II. Airborne Radar: Characteristics of Airborne Radar. Introduction. Special Aids and Devices. Navigation and Anticollision. Altitude Determination. Special Design Considerations. Engineering and Economic Considerations. Part III. Ground-based Radar: Types of Ground-based Radar and Special Equipment. Search and Automatic-tracking Radars. Height Finders. Radar Aids for Landing. Special Radar Aids. Radar Aids to Air Navigation and Traffic Control. Part IV. Shipborne Radar: Navigation and Pilotage. Bibliography. A Shipborne Navigational Radar. Index.

HENNEY—Index

Edited by KEITH HENNEY, Editorial Director. *Electronics, Nucleonics,* Volume 28—*MIT Rad. Lab. Series.*

160 *pp.*, 6 *x* 9 (1953).....$4.50*r*

This invaluable *Index* volume, the last of the twenty-eight volume series, contains a complete

guide to the entire series. Furthermore, it tells the whole story of the Radiation Laboratory through articles by Karl T. Compton, Leo A. DuBridge, and Louis N. Ridenour on its establishment, history of organizations, activities, and functions, and finally the preparation of the series itself.

KERR—Propagation of Short Radio Waves
Edited by D. E. KERR, The Johns Hopkins University. Volume 13—*MIT Rad. Lab. Series.*
729 *pp.*, 6 *x* 9, 308 *illus.* (1951).....$13.00*r*
CONTENTS—Elements of the Problem. Theory of Propagation in a Horizontally Stratified Atmosphere. Meteorology of the Refraction Problem. Experimental Studies of Refraction. Reflections from the Earth's Surface. Radar Targets and Echoes. Meteorological Echoes. Atmospheric Attenuation. Index.

LAWSON AND UHLENBECK—Threshold Signals
Edited by J. L. LAWSON and G. E. UHLENBECK, University of Michigan. Volume 24—*MIT Rad. Lab. Series.*
388 *pp.*, 6 *x* 9, 182 *illus.* (1950).....$9.50*r*
Provides an analysis, both theoretical and experimental, of the factors which affect the perception of desired signals in the presence of various kinds of interference, principally inherent receiver noise. While emphasis is placed on signals and interference which are usually encountered in pulsed systems, other systems, such as continuous-wave ones modulated either in frequency or amplitude, are briefly discussed.
CONTENTS—Introduction. Types of Signals and Methods for Their Reception. Theoretical Introduction. Basic Origins of Internal Noise. Receiver Noise. External Noise Sources; Clutter. The Detectability of Signals in the Presence of Noise. Pulse Trains in Internal Noise. Pulse Trains in Internal Noise; Other Methods of Presentation. Modulated Pulse Trains. Threshold Pulsed Signals in Clutter. Threshold Signals in Electronic Interference. Threshold Modulations for Amplitude-modulated and Frequency-modulated Continuous-wave Systems. Index.

MARCUVITZ—Waveguide Handbook
Edited by N. MARCUVITZ, Microwave Research Institute, Polytechnic Institute of Brooklyn. Volume 10—*MIT Rad. Lab. Series.*
428 *pp.*, 6 *x* 9, *illus.* (1951).....$11.00*r*
Presents in compact form all currently available theoretical data and some experimental data on the properties of microwave transmission lines, microwave circuit elements (obstacles, windows, discontinuities, bends, junctions and couplings) and of some structures, such as cavities, which may be considered as composites of these. Data are given in the form most easily applied in practical circuit design. Theoretical results are stated in analytical form, but the greater part of the book consists of graphs presenting results in numerical form. When theoretical results are not available, experimental results may be given.
CONTENTS—Transmission Lines. Transmission-line Modes. Microwave Networks. Two-terminal Structures. Four-terminal Structures. Six-terminal Structures. Eight-terminal Structures. Composite Structures. Index.

PETTIT—Electronic Switching, Timing, and Pulse Circuits
By JOSEPH M. PETTIT, Stanford University. *Elec. & Electron Engg. Series.*
259 *pp.*, 6 *x* 9, 285 *illus.* (1959).....$8.50*c*
Promotes both physical understanding and analytical techniques for dealing with several important classes of electronic circuits. Tubes and transistors are used primarily as switches in these circuits and the resulting waveforms of current or voltage may be rectangular, triangular, or a succession of short pulses, but in almost no case will they be sine waves. There is widespread use of such waveforms in many electronic systems, including television, radar, pulse communication, digital computers and instrumentation.
CONTENTS—Preface. Switching and Timing Systems. Some Circuit Fundamentals. Electron Devices as Switching Elements. Some Circuit Examples Incorporating Electron Devices. Stable States and Regenerative Switching Multivibrators. Feedback Circuits for Generating Linear Voltage Slopes. Circuits Containing Inductors or Transformers. Lines and Pulse-forming Networks. Index.

PIERCE, McKENZIE, AND WOODWARD—Loran
Long Range Navigation
Edited by J. A. PIERCE, Harvard University, A. A. McKENZIE, *Electronics*, R. H. WOODWARD, Harvard University. Volume 4—*MIT Rad. Lab. Series.*
468 *pp.*, 6 *x* 9, 203 *illus.* (1948).....$10.00*r*
This book gives a complete account of the design and use of the long-range pulse navigation system known as Loran, both in its original form and as skywave-synchronized Loran. The greater part of the discussion is devoted to equipment now in operational use. Sections are included on radio propagation at Loran frequencies and on methods for the computation and preparation of Loran navigational charts.
CONTENTS—Part I, The Loran System: Introduction. History of Loran. Principles of Loran. Future Trends. Propagation. Methods of Computation of Loran Tables and Charts. Part II, Loran Equipment: Timers. Switching Equipment. Transmitters. Antenna Systems. Receiver Indicators. Special Techniques and Measurements. Appendixes: The Loran Program in the Hydrographic Office. Loran Ground Stations. Demonstrations Concerning the Geometry of Loran Lines. Determination of Errors in the Positions of Loran Transmitting Stations. Bibliography. Index.

RIDENOUR—Radar System Engineering
LOUIS N. RIDENOUR, Editor-in-Chief, *Radiation Laboratory Series.* Volume 1—*MIT Rad. Lab. Series.*
748 *pp.*, 6 *x* 9, *illus.* (1947).....$12.50*r*
An introduction to the tremendous research and effort that went into the development of radar and related techniques during the war. The present volume is intended to serve as a general treatise and reference book on the design of radar systems with primary emphasis on microwave pulse radar.
CONTENTS—The Radar Equation: The Radar Equation for Freespace Propagation. The Minimum Detectable Signal. Microwave Propagation. Properties of Radar Targets: Simple Targets. Complicated Targets. Ground Painting by Airborne Radar. Limitations of Pulse Radar: C-W Radar Systems: Specific Systems. The Gathering and Presentation of Radar Data: Types of Radar Indicators. Examples of the Major Operational Requirements. The Employment of Radar Data: External Aids to Radar Use. Examples of Radar Organizations. Radar Beacons: Radar-beacon Systems. Coding. Statistical Considerations. Antennas, Scanners, and Stabilization: Radar Scanning Patterns. Mechanical Scanners. Electrical Scanners. The Stabilization Problem. The Magnetron and the Pulser: The Magnetron. The Pulser. R-F Components: Microwave Components of the Receiver. Mounting the R-F Parts. The Receiving Systems—Radar Receivers: Introduction. The Receiver. Typical Receivers. The Receiving System—Indicators: The Cathode-ray Tube. Coordination with the Scanner. Basic Electrical Circuits. Indices. Display Synthesis. Signal Discrimination, Resolution, and Contrast. Prime Power Supplies for Radar: Aircraft Systems. Ground and Shipboard Systems. Examples of Radar System Design: Design of a High-performance Radar for Air Surveillance and Control. Design of a Lightweight Airborne Radar for Navigation. Moving-target Indication: Introduction. Performance Criteria and Choice of System Constants. Moving-target Indication on a Moving System. Component Design. Radar Relay: Introduction. Methods of Scanner Data Transmission. The Radio-frequency Equipment. Radar Relay Systems.

ROBERTS—Radar Beacons

Edited by ARTHUR ROBERTS, State University of Iowa. Volume 3—*MIT Rad. Lab. Series.* 489 *pp.*, 6 *x* 9 (1947).....$9.50*r*

This volume deals with the design and use of radar responder beacons. The employment of systems involving beacons for navigation and for identification is critically discussed. Systems using radar sets as interrogators and systems using special interrogators are both treated. Full information is given on the practical experience so far available regarding the field installation, operation, and maintenance of beacons.

CONTENTS—The Uses of Beacons. The Requirements of Systems Using Beacons: Range Considerations. Propagation and Coverage Considerations. Frequency Considerations. Coding and Communication. Traffic and Engineering Considerations. Beacon Design: R-F Components. Interrogation Coding. Beacons as Pulse Communication Systems. Modulators. Beacon Transmitters: Magnetrons. Triode Transmitters. Power Supplies and Performance Testing. Radar Design for Beacon Operation. The Design of Interrogator-responsors. Typical Beacon Systems. Installation, Operation, and Maintenance of Beacons.

SHAPIRO—The Prediction of Ballistic Missile Trajectories from Radar Observations

By IRWIN I. SHAPIRO, Lincoln Laboratory, Massachusetts Institute of Technology. *Linc. Lab. Series.*

216 *pp.*, 7¼ *x* 9⅞ (1958).....$7.95*r*

The author develops methods, based on the statistical theory of parameter estimation, that can be used to determine ballistic missile trajectories. The application is original. While the treatment is completely theoretical, the motivation came from purely practical considerations, and results of practical interest are included. With very slight modifications, the methods developed can be used to estimate the osculating parameters of satellite orbits.

CONTENTS—PART I. PREDICTION METHODS. General Discussion of Prediction Methods. The Method of Maximum Likelihood. An Approximate Solution to the Likelihood Equation. An Iterative Least Squares Estimation Method. Composite Least Squares Estimation Methods. Classification and Analysis of Minimum Data Estimation Methods. Deterministic Estimation Methods. Relations between Parameters and Prediction Functions. PART II. ANALYSIS OF RANDOM ERRORS IN PREDICTION METHODS. General Discussion of Error Analysis Methods. An Error Analysis of the Maximum Likelihood (ML) Prediction Method. Application of the Error Analysis of the ML Method to Single-site Radar Systems. Description of Computer Program for the Error Analysis of Single-site Radar Systems. Summary of Error Analysis Results from Single-site Radar Systems. Application of the Error Analysis of the ML Method to N-site Radar Systems. An Error Analysis of Restricted Estimation. PART III. ANALYSIS OF SYSTEMATIC ERRORS IN PREDICTION METHODS. General Discussion of Systematic Errors. Elimination of Systematic Errors Due to Neglect of Earth Rotation. Elimination of Dynamic Errors Due to Neglect of Earth Oblateness. APPENDIX A. Iterative Solutions to the Kepler Equation. B. An Error Analysis of Milne's Method.

SKOLNIK—Introduction to Radar Systems

By MERRILL I. SKOLNIK, Research Division, Electric Communications, Inc.

657 *pp.*, 6⅜ *x* 9¼, 391 *illus.* (1962).$14.50*c*

Provides an up-to-date description of radar systems and techniques that can be used as a reference for workers in the field of radar and allied fields, as a text in a graduate course in radar, or as an introduction to radar systems for those whose interests or work requires a knowledge of radar. The important aspects of radar systems, techniques, and components are discussed from the point of view of the radar systems engineer. Extensive references are made to the published literature.

CONTENTS—The Nature of Radar. The Radar Equation. CW and Frequency Modulated Radar. MTI and Pulse Doppler Radar. Tracking Radar. Radar Transmitters. Antennas. Receivers. Detection of Radar Signals in Noise. Extraction of Information from Radar Signals. Propagation of Radar Waves. Clutter, Weather, and Interference. Systems Engineering and Design. Radar Detection of Extraterrestrial Objects.

SOLLER, STARR, AND VALLEY—Cathode-ray Tube Displays

Edited by THEODORE SOLLER, Amherst College, MERLE A. STARR, University of Portland, and GEORGE E. VALLEY, JR., Massachusetts Institute of Technology. Volume 22—*MIT Rad. Lab. Series.*

746 *pp.*, 6 *x* 9, *illus.* (1948).....$13.50*r*

A practical discussion of the basic characteristics, principles of operation, and methods of application of cathode-ray tubes. A compilation of design techniques, whereby instruments using cathode-ray tubes as major components can be synthesized to fulfill various functions, comprises a major portion of the book.

CONTENTS—Cathode-ray Tubes. Focus Coils and Focus Magnets. Circuit Techniques. Position-data Transmission. Electronic Markers and Indices. Deflection-modulated Displays. Deflection Coils. Pattern Distortions on Magnetic Cathode-ray Tubes. Sweep Amplifiers for Reactive Loads. Rectangular-coordinate Displays. Special Deflection Coils for Offcentering. Radial-time-base Displays. Sector-display Indicators. Range-height Displays. Mechanical and Optical Devices. Spot Size. Screens for Cathode-ray Tubes. Appendices. Index.

Control Engineering

McGRAW-HILL SERIES IN CONTROL SYSTEMS ENGINEERING

(Series in Cont. Syst. Engg.)

John R. Ragazzini, Co-Editor
Dean of Engineering, New York University

William E. Vannah, Co-Editor
Editor, *Control Engineering*, McGraw-Hill Publishing Co., Inc.

Caldwell, Coon and Zoss—Frequency Response for Process Control
Chang—Synthesis of Optimum Control Systems
Cosgriff—Nonlinear Control Systems
Del Toro and Parker—Principles of Control System Engineering
Gibson and Tuteur—Control System Components
Gille, Pelegrin and Decaulne—Feedback Control Systems
Goode and Machol—System Engineering
Laning and Battin—Random Processes in Automatic Control
Lewis and Stern—Design of Hydraulic Control Systems
Ragazzini and Franklin—Sampled-data Control Systems
Savant—Basic Feedback Control System Design
Seifert and Steeg—Control System Engineering
Smith—Feedback Control Systems
Truxal—Control Engineers' Handbook

CONTROL ENGINEERS' HANDBOOK

Servomechanisms, Regulators and Automatic Feedback Control Systems
Prepared by a Staff of Specialists. JOHN C. TRUXAL, Editor-in-Chief, Polytechnic Institute of Brooklyn. *Series in Cont. Syst. Engg.*
1078 *pp.*, 6 x 9 (1958).....$23.50*hb*

A handbook of basic information on components and design techniques, arranged to be of use in the research, development, and design of feedback control systems. Emphasis is largely on components, including electromechanical, mechanical, hydraulic, and pneumatic as well as electronic and magnetic components. Shows how they work, the limitations on their operating characteristics, and techniques for measuring the characteristics. How components are assembled in feedback control system is illustrated by specific discussions of regulators and process control systems.

Principles and Practice

AHRENDT AND SAVANT—Servomechanism Practice

By WILLIAM R. AHRENDT, deceased, and C. J. SAVANT, JR., Hughes Tool Company and University of Southern California. *Elec. & Electron. Engg. Series.* Second Edition.
566 *pp.*, 6 x 9, 497 *illus.* (1960)....$13.00*c*

Emphasis in this book is placed on the practical aspects of servomechanism components, circuits, and systems. Theoretical concepts are included in the Appendix. The entire book has been reorganized for a better logical sequence, and new chapters have been added on gyroscopes, accelerometers, electro-magnetic torques and forces, and pneumatic systems. The chapter on gyroscopes includes both theoretical and practical information not found elsewhere.

CONTENTS—Preface. Operation of a Simple Feedback Control System. Design of Servomechanisms. Position-measuring Instruments. Demodulators and Modulators. Servo Networks. Servoamplifiers. Servomotors. Rate-measuring Instruments. Acceleration-measuring Instruments. Gyroscopes. Hydraulic and Pneumatic Systems. Manufacture of Servomechanisms: Servomechanism Adjustment and Trouble Shooting. Tests of Servomechanisms. A Typical Servomechanism and Its Operation. Theory of Servomechanisms. Glossary of Terms. Letter Symbols. Various Charts and Tables. Bibliography. Index.

AHRENDT AND TAPLIN—Automatic Feedback Control

By W. R. AHRENDT, deceased, and JOHN F. TAPLIN, Kendall Controls Corporation.
412 *pp.*, 6 x 9, 380 *illus.* (1951)....$10.50*c*

Concerned with the analysis of automatic feedback control systems and the design or selection of required control apparatus. The book is divided into two principal parts: a thorough discourse on the theory of automatic control; and a detailed discussion of the types of problems encountered in each type of industry. Examples of the various classes of instruments are presented, showing both functional and constructional requirements.

CONTENTS—Preface. List of Symbols. Introduction. Dynamical Analysis of Physical Systems. The Operational Approach to Feedback Control. Frequency Spectrum Analysis. Feedback Control Loops. Multiple-loop Feedback Control Systems. Design Considerations. Nonlinearity and Discontinuity. Servomechanisms. Pneumatically Operated Controllers. Temperature Regulation. Speed Governing. Pressure, Flow, and Liquid Level. Bibliography. Index.

ATTURA—Magnetic Amplifier Engineering

By GEORGE M. ATTURA, Industrial Control Company.
216 *pp.*, 6 x 9, 200 *illus.* (1959)....$10.50*i*

A guide to the theory, operating principles, and practical applications of all types of magnetic amplifiers. Explains the interrelation of the electric and magnetic variables through the equations of Faraday and Oersted; discusses special characteristics of the magnetic amplifier reactor and constrasts them with the performance of the linear inductor; and explains the special core materials and the manufacture and test of these special reactors. The book presents a common analytical basis—the integrated volt-second concept—for all types of magnetic amplifiers. Included are analyses of the saturable reactor, the reactor-rectifier amplifier, and the reversible, single-core amplifier. Covers such special topics as hybrid circuits, bi-directional output amplifier, winding and test specifications for toroidal reactors, experimental testing, and mathematical analysis of the load action of the reactor-rectifier amplifier. Several chapters are devoted to typical circuits and applications.

BROXMEYER—Inertial Navigation Systems

By CHARLES BROXMEYER, MIT. *Electron. Sc. Series.*

In Press

A concise and orderly treatment of the inertial navigation of ships and aircraft, generalized as a treatment of control theory applied to a class of systems that offer a variety of unusual aspects. The text provides specifications for six types of inertial navigation systems, includes several error analyses, and sufficient theoretical material to permit full theoretical performance evaluation of any inertial navigation system. Matrices are strongly emphasized as devices to describe the relative motion of the several moving coordinate frames usually involved in system analysis, and for other developments of the theory and its applications. The text is confined to a treatment of the inertial navigation of freely maneuverable vehicles.

BRUNS AND SAUNDERS—Analysis of Feedback Control Systems

By ROBERT A. BRUNS, California Institute of Technology, and ROBERT M. SAUNDERS, University of California, Berkeley. *Elec. & Electron. Engg. Series.*
383 *pp.*, 6 x 9, *illus.* (1955).....$9.95*c*

The approach is in terms of the frequency response method which is introduced in elementary courses in a. c. circuit theory. Emphasis is placed upon the powerful transfer function method of analysis. Thus in the ten chapters devoted to competent theory, the basic physical laws governing the behavior of components are interpreted in terms of their transfer functions so that the student can follow the discussion without having to know operational or Laplace calculus.

CONTENTS—List of Symbols. Introduction. PART I. COMPONENTS. Mechanical Systems. Electric Actuators. Hydraulic Elements. Pneumatic Elements. Electric Circuit Elements. Electronic Amplifiers. Magnetic Amplifiers. Dynamoelectric Amplifiers. Transducers, Date Transmitters, and Error Detectors. Reference Standards. PART II. FREDERICK-CONTROL-SYSTEM

THEORY. Specifications and Stability. Block Diagrams and Network Reduction. Experimental Methods for Obtaining Transfer Functions. Transient Response from Frequency Response Data. Nonlinear Systems. Discontinuous Systems.

CALDWELL, COON, AND ZOSS—Frequency Response for Process Control

Written by a Staff of Specialists. Edited by WILLIAM I. CALDWELL, Marquardt Corporation; GERALDINE A. COON, Taylor Instrument Company; and LESLIE M. ZOSS, Taylor Instrument Company and Valparaiso University. *Series in Cont. Syst. Engg.*

390 *pp.*, 6 *x* 9, 281 *illus.* (1959)....$12.75*i*

Covers the fundamental methods of frequency response and their application to the analysis, testing, and design of process control systems. Thoroughly explains the analysis of complete systems by highly effective techniques, and gives solutions to a great variety of practical problems. Included are time-saving graphical methods that help you get quick answers without the use of costly equipment.

CONTENTS—I. BASIC THEORY. Introduction. Frequency Response Analysis. Elementary Stability Considerations. The Properties of a Linear Lag. Frequency Response of a Linear Lag. A Linear Lead. Two Series-connected Linear Lags. Experimental Procedures in Applying Frequency Response Methods. Feedback Systems. The Quadratic Factor. Perspective. The Effect of Process Characteristics on Proportional Control. Control Charts for Proportional Response. Proportional plus Reset Control. Settings for Proportional plus Reset Controllers. Proportional plus Derivative Control. Settings for Proportional plus Derivative Controllers. Types of Three Term Controllers. The Start-up Problem. Good Settings for Three-term Controllers. Closed-loop Response. Location of Disturbances in the Control Loop. II. APPLICATIONS. Computing Process Characteristics. Dynamic Testing of Instruments. The Measurement of Temperature and Its Effect on Automatic Control. Dynamic Characteristics of Pneumatic Transmission Lines. Frequency Response Analysis of an Air Heater Temperature Control System. pH Control System Analysis. Analysis of a Flow Loop Using Frequency Response Techniques. Cascade Control Systems. From Step to Frequency Response with a Desk Calculator. APPENDIXES. List of Symbols. Construction of Templates. Index.

CHANG—Synthesis of Optimum Control Systems

By SHELDON S. L. CHANG, New York University. *Series in Cont. Syst. Engg.*

393 *pp.*, 6 *x* 9, 130 *illus.* (1961)....$11.75*c*

This text covers four basic methods of optimizing a control system: Wiener's least-square optimization with quadratic constraint and its manifestations in nonstationary and sampled-data systems; the maximum principle and its forerunner, the "bang-bang" servo principle; self-optimizing systems of various types; computer optimization and control nonlinear systems; and two closely related topics: estimation and measurement of power spectra and correlation functions; an analysis of the changes in a close-loop system's response because of component inaccuracies.

CONTENTS—Introduction. Optimum System with Deterministic Inputs. Statistical Properties of Signal and Noise. Optimum Systems with Random Inputs. Nonstationary Systems and Systems with Limited Observation Time. Optimum Design of Sampled-data Systems. Special-density Estimates. Effects on Inaccuracies of System Components. Minimal-time Control of Nonlinear Systems. Self-optimizing Systems. Stochastic Processes and Optimum Design of Adaptive Control. Computer Optimization of Nonlinear Systems. APPENDIX.

COSGRIFF—Nonlinear Control Systems

By ROBERT LIEN COSGRIFF, The Ohio State University. *Series in Cont. Syst. Engg.*

328 *pp.*, 6 *x* 9, 174 *illus.* (1958).....$10.75*i*

Presents those methods of nonlinear systems which are practical in the control field. Of the many texts dealing with control systems, this is the only one that treats in any detail the many nonlinear phenomena which arise in this area. Since all control systems are nonlinear in nature this book should provide both the student and the practicing engineer with a valuable insight, and tools for the analysis and design of control systems.

CONTENTS—Preface. Introductory Material. Techniques for the Analysis of Linear Systems. Frequency Response Techniques. Small-signal Theory. General Linear Methods for Nonlinear Systems. Phase-plane Analysis of Nonlinear Systems. Preliminary Frequency-response Techniques. Frequency Response of Nonlinear Systems. Linear Equations with Periodic Coefficients. Application of Statistical Methods. Logic Circuits as Control Elements. Appendix. Table of Integrals. Index.

DAVIS AND LEDGERWOOD—Electromechanical Components for Servomechanisms

By SIDNEY A. DAVIS, Consulting Electrical Engineer; and BYRON K. LEDGERWOOD, Chief Editor, *Control Engineering.*

342 *pp.*, 6 *x* 9, 315 *illus. and tables* (1961) $12.75*i*

Gives practical facts to help in selecting rotating components and using them effectively in precision servomechanisms. Discusses the electrical and mechanical characteristics common to all rotating components and shows how the equivalent circuit can be used as a basic tool for understanding the system performance of a-c components. Explains how to obtain the component performance characteristics necessary for rigorous system design and how to make the most efficient use of components under all operating conditions. Thorough coverage is given to a-c and d-c servomotors, tachometers, synchros, potentiometers and other less familiar components. Commercial practice, application data, and many typical numerical examples using characteristics of available components make this book a valuable working guide for the practicing systems engineer.

CONTENTS—Introduction to Rotating Components. Potentiometers. Synchros. Resolvers and Induction Potentiometers. Tachometers. A-C Servomotors. D-C Control Motors. Miscellaneous Components.

DEL TORO AND PARKER—Principles of Control System Engineering

By VINCENT DEL TORO, and SYDNEY R. PARKER, The City College of New York. *Series in Cont. Syst. Engg.*

686 *pp.*, 6 *x* 9, 349 *illus.* (1960)....$14.50*c*

A lucidly written, integrated, and comprehensive treatment of feedback control systems at the senior-graduate level. Five sections present a unified approach; each section dealing with a fundamental phase of control systems engineering. The order of presentation reflects chronologically the historical development of each phase. This motivates the reader for studying each successive phase and for seeking out new tools of analysis and design.

CONTENTS—INTRODUCTION AND MATHEMATICAL BACKGROUND. Introduction to Feedback Control Systems. Classical Solution of Linear Differential Equations. Laplace-transform Solution of Linear Differential Equations. TIME-DOMAIN APPROACH. Dynamic Behavior of Systems. Differential-equation Method. FREQUENCY-DOMAIN APPROACH. Frequency-response Analysis. Transfer Functions of Control Systems Components. Transfer Functions of Systems and Their Behavior. Stability. System Design. Frequency-domain Approach. ROOT-LOCUS APPROACH. Dynamic Behavior of Systems. Root-locus Method. Pole-zero Design Techniques. Synthesis of Compensation Transfer Functions with RC Networks. COMPUTER APPROACH. Electronic Analog-computer Techniques. Digital Computers. SPECIAL TOPICS. Self-adaptive Control Systems.

APPENDIXES. Conversion Factors for Servo Calculations. Methods for Determining the Roots of Algebraic Equations. Table of RC Transfer Functions. Logarithmic Spiral. Bandwidth of Second-order Systems. Index.

DOEBELIN—Dynamic Analysis and Feedback Control

By E. O. DOEBELIN, Ohio State University.
384 *pp.*, 6 *x* 9, 252 *illus.* (1962)....$11.50*c*

In this text, the author deals with a heretofore specialized study, namely, control theory, and demonstrates its proper application and vital place in all spheres of engineering. Mathematics is applied extensively through the use of differential equations, and emphasis is placed upon the physical rather than the abstract mathematical aspects of control system dynamics. Examples are given from diverse fields to clarify the explanations of such things as the limit cycle, perturbation methods for small-signal analysis, and basic analog computer methods. The book discusses significant matter on components, nonlinear concepts, and classes of applications of the feedback concept, and presents these and many other stimulating, advanced topics in understandable survey form.

CONTENTS—Preface. The Concept of Feedback. Mathematical Review. Analog Computers. Analysis of Physical Systems. System Performance. Specifications and Preliminary Design. Stability Criteria. Basic Techniques of Feedback Control. Terminology of Process Control. Survey of Advanced Topics. Appendix. Bibliography. Index.

GEYGER—Magnetic Amplifier Circuits

By DR. WILLIAM A. GEYGER, U.S. Naval Ordnance Laboratory, White Oak, Maryland. Second Edition.
277 *pp.*, 6 *x* 9, 135 *illus.* (1957).....$10.00*i*

A practical manual on the fundamental principles and applications of magnetic amplifiers, with special emphasis on magnetic servo amplifiers. It develops logically the various kinds of basic and more complex circuit arrangements.

CONTENTS—Introduction. Historical Development of Magnetic-amplifier Circuits. Magnetic-amplifier Elements. Basic Nonfeedback Types of Magnetic-amplifier Circuits. Operating Conditions of Nonfeedback Types of Magnetic-amplifier Circuits. Nonpolarized, Polarized, and Duodirectional Types of Nonfeedback Magnetic-amplifier Circuits. Basic External-feedback Types of Magnetic-amplifier Circuits. Development of External-feedback Types of Magnetic-amplifier Circuits. Duodirectional External-feedback Circuits with Two Saturable-reactor Elements. Duodirectional External-feedback Circuits with Four Saturable-reactor Elements. Basic Single-core Internal-feedback Magneton-amplifier Circuits. Basic Two-core Internal-feedback Types of Magnetic-amplifier Circuits. Full-wave Types of Duodirectional Internal-feedback Circuits with Two Saturable-reactor Elements. Half-wave Types of Duodirectional Internal-feedback Circuits with Two Saturable-reactor Elements. Duodirectional Internal-feedback Circuits with Four Saturable-reactor Elements. Magnetic-amplifier Circuits of the Self-balancing Potentiometer Type. Second-Harmonic Types of Magnetic-amplifier Circuits. Technical Properties of Magnetic Amplifiers. Index.

GIBSON—Nonlinear Automatic Control

By JOHN E. GIBSON, Purdue University.
585 *pp.*, 6 *x* 9, 380 *illus.* (1963)....$16.50*c*

This text is written to help provide the tools the engineering student needs to solve nonlinear problems. A most complete book, it covers a large number of important research areas that have come into prominence in control engineering. This graduate course text is also valuable to the control system designer in industry who is several years removed from the latest theory.

GIBSON AND TUTEUR—Control System Components

By JOHN E. GIBSON, Purdue University, and FRANZ B. TUTEUR, Yale University. *Cont. Syst. Engg. Series.*
493 *pp.*, 6 *x* 9, 430 *illus.* (1958).....$13.50*r*

A descriptive treatment of a number of the most commonly-used components in servomechanisms and other feedback control systems. The point of view is that of the user rather than the designer of components, and for most of the components discussed, transfer functions have been computed. The authors emphasize methods of analysis and basic engineering principles. The book gives a gradual introduction to the more advanced parts of the discussions of electronic, electric, mechanical, hydraulic, and pneumatic components.

CONTENTS—Preface. Electric Networks for Control Systems. D-C Amplifiers. Power Amplifiers. D-C Machines. Synchros and Related Devices. Demodulators and Modulators. A-C Motors. Mechanical Networks and Gears. Mechanical Components. Pump-controlled Hydraulic Systems. Valve-controlled Hydraulic Systems. Pneumatic Systems. Pneumatic Components. Index.

GILLE, PÉLEGRIN, AND DECAULNE—Feedback Control Systems

By J. C. GILLE, M. J. PÉLEGRIN, and P. DECAULNE, École Nationale Supérieure de l'Aéronautique, Paris. *Series in Cont. Syst. Engg.*
793 *pp.*, 6 *x* 9, 954 *illus.* (1959)....$17.75*r*

A servomechanism text for seniors and first-year graduate students and a reference book for the engineer working in the automatic control field. By progressing from the elements of the subject, the authors provide in a single book a treatment both of the over-all theory of feedback control systems and of their components.

CONTENTS—Especially Noteworthy Figures. Major Tables. Foreword. Preface. INTRODUCTION. The Concept of Feedback Control. DYNAMICS OF LINEAR SYSTEMS. Deriving the Equations of Linear Systems. Transients. Leplace Transforms. First-order Systems. Second-order Systems. Transfer Function. The Harmonic Approach: Transfer Loci. Pole-zero Configuration Approach—Stability. Transfer Matrices. Linearity Domain. Statistical Considerations. LINEAR SERVO SYSTEMS. Transfer Functions and Transfer Loci of Feedback Control Systems. Pole-zero Configuration Approach—The Root Locus Method. Steady State of Feedback Control Systems. Graphical Stability Criteria. Performance Criteria. Compensation of Feedback Control Systems. Servo System Synthesis. Sampled-Data Systems. Multiple Feedback Control Systems. NONLINEAR SERVO SYSTEMS. General Remarks on Nonlinear Systems. Transients in Nonlinear Servo Systems. The First-harmonic Approximation. The Poincaré Approach in the Phase Plane. Oscillations of On-off Control Systems. Additional Methods Applicable to Nonlinear Systems. Linearization—Final Remarks. COMPONENTS OF SERVO SYSTEMS. Sensing Devices. Determination and Design of Servo Motors. Electric Servo Motors. Hydraulic Servo Motors. Amplifiers and Pre-amplifiers. BASIC DESIGN OF A SERVO SYSTEMS. APPENDIX A—Problems. APPENDIX 2—Five Language Glossary of Important Terms in Automatic Control. Bibliography. Alphabetical Index.

GOODE AND MACHOL—System Engineering
An Introduction to the Design of Large-scale Systems

By HARRY H. GOODE, Purdue University, and ROBERT E. MACHOL, Conduction Corp., Ann Arbor, Michigan. *Series in Cont. Syst. Engg.*
551 *pp.*, 6 *x* 9, 200 *illus.* (1957).....$11.50*c*

The first integrated approach to system design to be published. This is an "over-view" book illustrating how a number of very important fields, such as statistics, computers, game theory, information theory, servomechanisms, and control, are put together by a group of

systems engineers to attack large scale problems in engineering.
CONTENTS—Introduction. Probability—The Basic Tool of Exterior System Design. Exterior System Design. Computers—The Basic Tool of Interior System Design. Interior System Design. Epilogue. Index.

JAMES, NICHOLS, AND PHILLIPS—Theory of Servomechanisms

By HUBERT M. JAMES, Purdue University, NATHANIEL B. NICHOLS, and RALPH S. PHILLIPS. Volume 25—*MIT Rad. Lab. Series.*
370 *pp.*, 6 x 9, 149 *illus.* (1947).....$9.50*r*

Deals first with frequency response techniques of servomechanism design. The required mathematical background is summarized and applications are described. The second section of the book presents a new design technique which depends upon minimization of the *rms* error with which the mechanism produces a desired result in the presence of electrical noise and other disturbances. The relationship of the two sections of the book to each other is explored.
CONTENTS—Serve Systems. Mathematical Background: Introduction Filters. The Weighing Function. The Frequency-response Function. The Laplace Transform. The Transfer Function. Systems with Feedback. Serve Elements. General Design Principles for Servomechanisms: Basic Design Techniques and Application to a Simple Serve. Attenuation-phase Relationships for Serve Transfer Functions. Equalization of Serve Loops. Applications. Filters and Serve Systems with Pulsed Data: Filters with Pulsed Data. Filters with Clamping. Servos with Pulsed Input. Statistical Properties of Time-variable Data: Introduction. Harmonic Analysis for Stationary Random Processes. Examples. Rms-error Criterion in Servomechanism Design. Applications of the New Design Method: Serve with Proportional Control. Tachometer Feedback Control. Manual Tracking. Appendix: Table of Integrals. Index.

LANING AND BATTIN—Random Processes in Automatic Control

By J. HALCOMBE LANING, JR., and RICHARD H. BATTIN, both Massachusetts Institute of Technology. *Series in Cont. Syst. Engg.*
450 *pp.*, 6 x 9, 102 *illus.* (1956).....$13.00*c*

Provides the practical engineer and the theoretical research scientist with a basic background in the theory of random signals and noise, together with practical techniques to be used in the analysis and synthesis of linear control systems which are subjected to random inputs. Treats the basic concepts of probability and random time functions and uses them to develop analysis and design techniques for linear control systems containing both constant and time-varying components.
CONTENTS—Basic Concepts of Probability Theory. The Statistical Description of Random Processes. The Shot Effect and Gaussian Random Processes. Analysis of Effects of Time-invariant Linear Systems on Stationary Random Processes. Mean-squared Error Analysis for Nonstationary Problems. Optimum Linear Least-square Smoothing and Prediction for Stationary Random Processes. Optimum Operations with Finite Data.

LAUER, LESNICK, AND MATSON—Servomechanism Fundamentals

By HENRY LAUER, Radio Corporation of America; ROBERT N. LESNICK, Philco Corporation; and LESLIE E. MATSON, Radio Corporation of America. Second Edition.
490 *pp.*, 6 x 9, 273 *illus.* (1960).....$12.50*i*

Provides basic information for solving problems in the design of servomechanisms and achieving efficient, smoothly operating systems. It presents the operating features of these automatic control devices and gives logical design procedures. Theory is developed by means of both transient analysis and frequency-analysis methods, and classical methods are used in solving differential equations. The Second Edition is thoroughly revised to reflect modern developments in the servo field.
CONTENTS—Elementary Forms of Control Systems. Servo System Follow-Up Links. Fundamentals of Mechanics and Electricity. Servomechanisms with Viscous Output Damping. Servomechanisms with Error-rate Damping. Servomechanisms with Combined Viscous Output Damping and Error-rate Damping. Error-rate Stabilization Networks. Servomechanisms with Integral Control. Transfer Function Analysis of Servomechanisms. Servomechanisms Performance as Shown by Transfer Function Characteristics. Nonlinear Servo Systems. Servo Design Considerations and Typical Calculations.

LEONDES—Computer Control Systems Technology

Edited by CORNELIUS T. LEONDES, University of California, Los Angeles.
636 *pp.*, 6 x 9, 379 *illus.* (1961)....$16.00*c*

This book contains contributions by a number of outstanding men in the control and computer field. It consists of three major parts; the first of which deals with the theory of digital and analog computers. The second part deals with control theory, and the last part blends these two major fields by considering the development of some systems with various degrees of complexity.
CONTENTS—Preface. Computer Technology. Introduction to Digital and Analog Computer Theory. Digital Computer System Design. Digital Computer Circuitry Design Techniques. Special Topics in Digital Computer Theory. Analog Computer Theory. Analog and Digital Techniques Combined. System Error Analysis in Computation. Control System Theory. Control System Synthesis Techniques. Nonlinear Control System Theory. Sampled Data Theory. Random Processes in Automatic Control. Optimal Control Problems in Discrete-time Systems. Navigation, Guidance and Control Problems for Missiles and Space Vehicles. Air Traffic Control. Optimalizing Cruise Control Systems. Control Problems in Nuclear Reactors. Automatic Machine Tool Control. Computer Control in Process Industry.

LYNN, PULA, RINGELMAN, AND TIMMEL—Self-saturating Magnetic Amplifiers

By GORDON E. LYNN, THADDEUS J. PULA, JOHN F. RINGELMAN, and FREDERICK G. TIMMEL, all of Westinghouse Electric Corporation.
217 *pp.*, 6 x 9, 149 *illus.* (1960).....$9.00*i*

A thorough treatment of self-saturating magnetic amplifiers presented with simplicity and clarity. Includes step-by-step descriptions of the basic assumptions involving circuital laws, magnetic theory, and the mechanics of self-saturating amplifiers. Helpful sections cover transformer theory, feedback control theory, and magnetic theory. Commonly encountered design problems and methods for pursuing a design from start to finish are discussed.
CONTENTS—Fundamental Concepts. Basic Material Properties. Mechanics of Operation of Self-saturating Magnetic Amplifiers. Volt-second Transfer Efficiency. Dynamic Response. Magnetic Material Evaluation. Design Methods for Typical Circuits. Special Design Problems. Applications.

MORSE—Electrohydraulic Servomechanisms

By ALLEN C. MORSE, Space and Information Systems Division, North American Aviation.
248 *pp.*, 6 x 9, 151 *illus.* (1963)....$11.50*i*

This work covers servomechanisms using electrical, electronic, and hydraulic components. Current applications of servomechanisms using these components are extensive, with every indication that such applications will continue to increase in a variety of modern machines and vehicles. Topics covered include: valve controlled systems; two-state electrohydraulic servo valves; actuators and other components; system dynamics; system stabilization; and

experimental techniques and instrumentation for measuring. Major use for the book will be among mechanical engineers, control engineers, electronic engineers, and systems designers.

O'DONNELL—Inertial Navigation Analysis and Design

By C. F. O'DONNELL, Autonetics.

In Press

A balanced presentation of inertial navigation covering systems and component analysis and basic hardware design prepared by members of a leading firm in the field. A general engineering, physics, or applied mathematics background is sufficient to follow the technical development without difficulty. This is not a handbook. Rather, it covers the basic classes of design problems. The inertial navigator used during the initial cruise of the Nautilus beneath Arctic ice is used as an example. Principal editors include J. M. Slater, J. R. Streeter, L. C. Dozier, all of Autonetics, and D. B. Duncan of the Aeronutronic Division, Ford Motor Company. Key areas have been covered by specialists throughout the book.

CONTENTS—Principles of Inertial Navigation. Inertial and Optical Components. Inertial Platforms. Supporting Subsystems. Mechanization and Error Analysis. Design of a High Precision Inertial Autonavigator for World-wide Operation. Modified Systems. Ballistic Guidance. Appendixes.

RAVEN—Automatic Control Engineering

By FRANCIS H. RAVEN, University of Notre Dame. *Series in Mech. Engg.*

413 *pp.*, 6 *x* 9, 403 *illus.* (1961)....$11.50*c*

A text in control engineering aimed primarily at mechanical engineers. Its aim is to develop and explain the principles of feedback control systems in a manner appropriate to such readers. The first half of the book is concerned with the principles and fundamental concepts of feedback control systems; the latter half correlates basic theory with the more practical aspects involved in the design of feedback systems.

CONTENTS—Preface. Introduction to Automatic Controls. Representation of Control Components. Representation of Control Systems. Steady-state Operation. Laplace Transforms. The Characteristic Function. The Root-locus Method. Analog Computers. Frequency-response Methods. Improving System Performance. Hydraulic Systems. Pneumatic Systems. Electrical Systems. Inertial Guidance. Nonlinear Systems. APPENDIX: Correlation Between Laplace Transform, Fourier Series, and Fourier Integral. Response of System to an Arbitrary Input. Obtaining the Frequency Response from the Transient Response. Obtaining the Transient Response from the Frequency Response. Problems. INDEX.

SAVANT—Basic Feedback Control System Design

By C. J. SAVANT, JR., Hughes Tool Company; University of Southern California. *Series in Cont. Syst. Engg.*

418 *pp.*, 6 *x* 9, 430 *illus.* (1958)....$10.50*c*

This book attempts to teach the fundamentals of servo design by means of practical examples and from the reader's own point of view. The book deviates from others in the field in two respects—first, in the use of the root locus method as a basic tool for servo design, and second, in presenting servo theory and practical servo design without the requirement of an elaborate mathematical background. The design approach, although rigorous, does not require a previous knowledge of Laplace transforms and requires only junior level alternating current circuit theory. Each chapter is self contained, and problems are included at the end of each chapter.

CONTENTS—Preface. List of Symbols. Introduction to Feedback Control Systems. Obtaining the System Differential. Steady State Errors. The Root Locus Method. Stability, the Frequency Analysis Method. Servomechanism Equalization. Design of d-c and a-c Equalizers. Servomechanism Transducers. Servo Components and Applications. Nonlinearities in Servo-Design. APPENDIX I. Laplace Transform Method. APPENDIX II. Classical Solution of Differential Equations. APPENDIX III. Roots of Equations. APPENDIX IV. Use of Determinants. APPENDIX V. Hurwitz's Stability Criterion. APPENDIX VI. Derivation of the Nyquist Criterion. APPENDIX VII. Derivation of M and N Circles. APPENDIX VIII. Relations Between and Other Stability Quantities. APPENDIX IX. Design of Bridged and Parallel Tee Networks. APPENDIX X. Fourier Series. Bibliography.

SAVANT ET AL.—Principles of Inertial Navigation

By C. J. SAVANT, JR., Hughes Tool Co., and University of Southern California, R. C. HOWARD and G. B. SOLLOWAY, University of Southern California, and C. A. SAVANT.

254 *pp.*, 6 *x* 9, *illus.* (1961).....$9.95*r*

Presenting the principles of inertial navigation to those who have little or no background in the field, this book summarizes much of the unclassified material on the subject and presents it in an organized manner. Three main points are discussed: the basic concepts of navigation and the elements required for automatic navigation; autonavigation components and computers, platform controllers, ground alignment, and pre-flight testing; the various coordinate systems, system error analysis, ballistic guidance.

CONTENTS—Preface. Navigation—General Principles. Inertial Navigation. Practical Autonavigators. Autonavigator Components. Platform Controllers. Autonavigator Computers. Ground Alignment. Performance and Preflight Testing. Mathematics of Inertial Navigation. System Error Analysis. Elements of Ballistic Guidance. Appendices: Gravity and the Earth; Derivation of the Equations of Motion; Details of a Complete Error Analysis; Equations of a Gyroscope; Orbital Trajectories.

SEIFERT AND STEEG—Control Systems Engineering

Edited by WILLIAM W. SEIFERT, Massachusetts Institute of Technology, and CARL W. STEEG, Radio Corporation of America. *Elec. & Electron. Engg. Series.*

964 *pp.*, 7¼ *x* 9⅞ (1960).....$17.50*i*

Presents for either the advanced student or the research worker a relatively complete coverage of the mathematical aspects of modern control-systems engineering as applied in the study of complex, large-scale automatic control systems. The first two chapters serve to introduce the general subject of control-systems engineering and the important role played by models, both physical and mathematical. The remaining 15 chapters are devoted to a systematic development of the theoretical techniques used in the analysis and synthesis of control systems. The eleven contributors to this volume are all former members of the Dynamic Analysis and Control Laboratory at the Massachusetts Institute of Technology.

CONTENTS—Analysis of Complex Systems. Models. Ordinary Differential Equations. Mathematics for Linear Systems. Introductory Feedback Theory. Matrix Methods. Numerical Analysis. Analogue-computation Techniques. Linear Integral Equations. Basic Statistical Theory. Engineering Applications of Statistical Theory. Optimization of Linear Systems. Systems Analyses in Phase Space. Describing Functions. Techniques of Time-domain Synthesis for Control Systems. Analysis of Sampled-Data Systems. Elements of Game Theory. Appendix—Table of Integrals for the Squares of Rational Functions Having Poles in the Left Half-plane.

SMITH—Feedback Control Systems

By OTTO J. M. SMITH, University of California, Berkeley. *Series in Cont. Syst. Engg.*

694 *pp.*, 6 *x* 9, 259 *illus.* (1958)....$14.50*c*

Here is a unified philosophy for the analysis and design of all types of feedback systems. The author presents the rigorous relationship between the open-loop transient, sinusoidal, or statistical response and the closed-loop transient, sinusoidal, and statistical responses. Intended for the first year of graduate study, this textbook is designed for the reader who has had at least one previous course in control systems or feedback systems and has studied statistics from the viewpoint of Fourier and Laplace transforms, random gaussian signals, weighting functions, and cross-power spectra.

CONTENTS—Preface. Glossary of Symbols. LINEAR ANALYSIS. Introduction. Single-Feedback-Loop-Analysis. s-Plane Analogs. Multiple Loops. Power Spectra. LINEAR SYNTHESIS. Optimum Linear Design. Transforming Filter into Feedback System. Design with Unalterable Components and Variable Parameter Systems. Design Techniques. Dead Time. STEADY STATE NONLINEAR ANALYSIS. Relay Analysis. Multilevel-Decision Functions. Unilateral Nonlinearities and Discontinuities. Bilateral Nonlinearities and Nonlinear Systems. NONLINEAR SYNTHESIS. Principles of Predictor Control of Nonlinearities. Predictor Control of Elementary Saturating Systems. Predictor Control of Complex Nonlinear Systems. Carrier Systems. Appendix A. Index.

THALER—Elements of Servomechanism Theory

By GEORGE J. THALER, U.S. Naval Postgraduate School. *Elec. & Electron. Engg. Series.*

282 *pp.*, 6 *x* 9, *illus.* (1955).....$9.50*c*

Designed to present to any person with a basic engineering and science background the subject of servomechanism theory, this book covers the elements of feedback theory and the normal methods of applying them. The use of higher mathematics is avoided, and in order to provide adequate practice in modern techniques, the polar and logarithmic approaches are handled simultaneously.

CONTENTS—Introduction. General Aspects of Analysis and Design. Transient Analysis of Servomechanisms. Transfer Functions. Transfer-function Plots. Analysis of Single-loop Systems. Methods of Meeting Performance Specifications. Gain Adjustment of Servomechanisms. Series Compensation of Servomechanisms. Feedback Compensation of Servomechanisms. Introduction to Advanced Topics—Linear Theory. Introduction to Advanced Topics—Nonlinear System. Appendixes. Index.

THALER AND BROWN—Analysis and Design of Feedback Control Systems

Formerly Servomechanism Analysis

By GEORGE J. THALER, U.S. Naval Postgraduate School, and ROBERT G. BROWN, AC Spark Plug, The Electronics Division of General Motors Corporation. *Elec. & Electron. Engg. Series.* Second Edition.

648 *pp.*, 6 *x* 9, 470 *illus.* (1960)....$14.95*c*

Completely rewritten to bring both the presentation and the material up to date. The major revisions include: Chapters 6 and 7 integrate a treatment of polar, logarithmic and root locus methods. Chapters 8 and 9 present a schedule of design procedure for the control engineer, and a number of detailed illustrative designs taken from actual practice. Chapter 10, Mitrovic's Method, is a detailed introduction to a procedure which will be in the development stage for at least another five years. Chapter 11, on Sampled Data Systems, introduces a very important topic. Chapters 12, 13 and 14 provide an excellent introduction to Nonlinear Servo Theory and Relay Servos that has been thoroughly classroom tested.

CONTENTS—Preface. General Background. The Laplace Transformation. Equations of Physical Systems. Transient Analysis of Servomechanisms. Transfer Functions. Graphical Representation and Manipulation of Transfer Functions. Analysis of Servomechanism Performance from Equations and Transfer-function Plots. Introduction to Design. Application of Design Principles. Mitrovic's Method for the Analysis and Synthesis of Feedback Control Systems. Sampled-data Servo Systems. Phase-plane Analysis of Nonlinear Servos. Describing Functions and Their Applications. Relay Servomechanisms. Appendixes. Index.

THALER AND PASTEL—Analysis and Design of Nonlinear Feedback Control Systems

By GEORGE J. THALER, United States Naval Postgraduate School; and MARVIN P. PASTEL, Northrop Corporation, Nortronics Division. *Elec. & Electron. Engg. Series.*

528 *pp.*, 6 *x* 9, 323 *illus.* (1962)....$14.50*c*

The first five chapters of this text are concerned primarily with analysis, the second five with design. In all cases the objective has been a clear presentation of fundamental concepts and basic techniques, with sufficient detail to permit development of working skills. It is intended for a first course in nonlinear control systems, pitched at the graduate level.

CONTENTS—Introduction. Analytical and Numerical Methods for the Solution of Nonlinear Systems. The Phase Plane. Describing Function Techniques. Introduction to Analysis with Random Inputs. Relay Servomechanisms. Optimum and Quasi-Optimum Relay Servos. Dual Mode Servos. Some Nonlinear Compensation Techniques. Self-Adaptive Control Systems. Analog Simulation. An Introduction to the Second Method of Liapunov. Index.

TRUXAL—Automatic Feedback Control System Synthesis

By JOHN G. TRUXAL, Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series.*

695 *pp.*, 6 *x* 9, 583 *illus.* (1955)....$14.75*c*

A complete presentation of the methods useful in the design of feedback systems. The highly developed theories of the design and synthesis of *linear* systems are covered in detail, and the book concludes with an introduction to the analysis and design of *nonlinear* systems. This graduate-level development demonstrates the manner in which the feedback and network theory of the electrical engineer combines with the complex function theory and Laplace transform theory of the mathematician to form the theoretical basis for the relatively new field of systems or control engineering.

CONTENTS—Introduction. Signal-Flow Diagrams and Feedback Theory. Synthesis of RC Networks. Root-Locus Methods. Synthesis through Pole-Zero Configurations. Design in the s-Plane. Principles of Statistical Design. Applications of Statistical Design Principles. Sampled-Data Control Systems. Nonlinear Systems and Describing-Function Analysis. Phase-Plane Analysis.

D'AZZO AND HOUPIS—Control System Analysis and Synthesis

By JOHN J. D'AZZO and CONSTANTINE H. HOUPIS, Air Force Institute of Technology.

580 *pp.*, 6 *x* 9, 504 *illus.* (1960).....$13.50*c*

Treats feedback control systems in a logical rather than a historical manner, unifies the diverse methods of analysis, and presents the fundamentals explicitly and clearly. The authors develop the material in a unified sequence that enables the reader to understand and apply basic principles. It presents the principles of obtaining differential equations for electrical, mechanical, hydraulic, and heat flow systems; the classical solution of differential equations; and the various methods of analysis. There are extensive appendixes and

numerous examples and figures to illustrate important principles.

CONTENTS—Preface. Introduction. Differential Equations. Solution of Differential Equations. Laplace Transforms. Block Diagrams: Transfer Functions. Basic Servo Characteristics. Root Locus. Frequency Response. Nyquist's Stability Criterion. Feedback Control System Performance Based on the Frequency Response. Cascade Compensation: Root Locus. Cascade Compensation: Polar Plots. Cascade Compensation: Log Plots. Feedback Compensation. Complex Control Systems. A-C Feedback Control Systems. Optimum Response. Nonlinearities and Describing Functions. Analog Computers. Experimental and Design Procedures. Appendixes: A. Table of Laplace-transform Pairs. B. Methods of Factoring Polynomials (Root Solving). C. Standard Block-diagram Terminology. D. The Spirule. E. Angle to a Search Point Near the Real Axis Which Is Produced by Complex Poles and Zeros. F. Phase-angle Loci. G. Conversion of Decibels to Magnitude. H. Complex Number Table. I. Nyquist's Stability Criterion. J. Block-diagram Manipulations. K. Automatic Root Locus Plotting. Problems. Index.

TSIEN—Engineering Cybernetics

By H. S. TSIEN.

285 *pp.*, 6 *x* 9, 161 *illus.* (1954).....$9.50*i*

This important new work aims to establish engineering cybernetics as an engineering science, and covers, as far as possible within the limited space, the entire field of scientific principles of control, from the simple conventional servomechanisms to the very complex controlled and guided systems. A unified point of view is obtained through the abstraction of the scientific principles of control design out of the whole field of control engineering.

CONTENTS—Introduction. Method of Laplace Transform. Input, Output, and Transfer Function. Feedback Servomechanism. Noninteracting Controls. Alternating-current Servomechanisms and Oscillating Control Servomechanisms. Sampling Servomechanism. Linear Systems with Time Lag. Linear Systems with Stationary Random Inputs. Relay Servomechanisms. Nonlinear System with Variable Coefficients. Control Design by Perturbation Theory. Control Design with Specified Criteria. Optimalizing Control. Filtering of Noise. Ultrastability. Multistability. Control of Error.

ZEINES—Servomechanism Fundamentals

By BEN ZEINES, RCA Institutes.

257 *pp.*, 6 *x* 9, *illus.* (1959).....$6.00*c*
*McG-H Paperbacks Ed.**

A brief, elementary, practical text for first-year technical institute students who have completed basic courses in mathematics, physics, and electronics. The material acquaints the student with the basic methods of servo systems and data transmission systems and provides the background necessary for proper operation and maintenance. Fundamentals are stressed so that the student or technician may understand any type of servo equipment he may encounter in industry. The text is profusely illustrated.

CONTENTS—Control Systems and Servomechanisms. Elementary Forms of Control Systems. Types of Servo Systems. Servo Elements. Electronic and Magnetic Amplifiers. Servo Motors. Servo Motors, Cont'd. Performance Improvers. Measurement Methods. Examples of Servo Systems. Bibliography. Appendixes.

* *Available only through your local bookstore.*

Instrumentation and Control

CARROLL—Industrial Instrument Servicing Handbook

By GRADY C. CARROLL, Olin Mathieson Chemical Corp.

886 *pp.*, 6 *x* 9, 375 *illus.* (1960)....$16.00*hb*

A practical handbook supplying field and shop information on the servicing and maintenance of modern industrial process measuring and control instruments. Gives a cross-section of design principles, service, and maintenance of the major portion of industrial instruments manufactured by 41 companies. Includes sections on organizing an instrument maintenance department, selecting personnel for instrument servicing and maintenance, organizational charts, as well as scheduling systems for preventive maintenance. Troubleshooting charts are provided to assist in locating faulty components without a complete analysis of pneumatic and electrical circuits. Many photographs and circuit diagrams make the book self-explanatory.

CARROLL—Industrial Process Measuring Instruments

By GRADY C. CARROLL, Consultant, Instrument Maintenance and Process Control Engineering.

454 *pp.*, 6 *x* 9, 331 *illus.* (1962).....$12.50*i*

Provides information necessary for selecting primary elements for industrial process measurement. Covers a wide range of instruments for measuring industrial process variables, from simple measuring elements to complex analyzing equipment. Gives facts and data needed when selecting or applying primary instruments for the petroleum, petrochemical, chemical, plant food, insecticide, paper, high energy fuel, steam generating, and other industries. The book brings you a cross section of measuring elements manufactured by 44 companies. It includes design information for differential pressure-producing elements, flumes, weirs, and other devices. Discusses characteristic and accuracy curves, ranges, pressure limitations, and temperature ratings.

CONTENTS—Differential Pressure Measuring Elements. Fluid Velocity-measuring Elements. Mass-and Volume-measuring Elements. Pressure-measuring Elements. Liquid-level-measuring Elements. Speed- and Weight-measuring Elements. Specific-gravity and Interface-measuring Elements. Viscosity-measuring Elements. Temperature-measuring Elements. Gas-analyzing Elements. Oxygen-analyzing Elements. Miscellaneous Analyzing Elements. Liquid- and Moisture-analyzing Elements. Chemical-reaction-measuring Elements. Primary Elements for Flow Measurement.

CONSIDINE—Process Instruments and Controls Handbook

Edited by DOUGLAS M. CONSIDINE, Hughes Aircraft Company, Prepared by a Staff of Specialists.

1286 *pp.*, 6 *x* 9, (1957).....$22.50*hb*

Thorough treatment of the operating and design fundamentals of measurement and automatic control systems used in the process fields. Serves as a ready review of the fundamental principles of many different types of measurement and control processes, a guide to the selection of instruments or automatic controls for specific jobs, and a compilation of formulas, constants, and critical and other engineering data for aid in solving instrumentation and other problems. Among the subjects covered are measurement systems, indicators and recorders, automatic controllers, time and program controllers, electric and pneumatic telemetering, final control elements, fundamental principles of process control, and mathematical techniques for solving automatic control problems.

CONSIDINE AND ROSS—Handbook of Applied Instrumentation

Edited by D. M. CONSIDINE, Hughes Aircraft Co., and S. D. Ross, Michener Co. Prepared by a Staff of Specialists.

In Press

A definitive summation of how instruments are used to control machines, operations, processes, and industries. A practical companion volume to the Process Instruments and Controls Handbook, this work provides a thorough analysis of the basic types of variables subject to instrumentation and evaluates the various ways of measuring them. It gives hundreds of typical applications in the principal manufacturing industries; in the military, aircraft, and nuclear fields; and in utilities and laboratories. Includes practical information on the selection of measurement and control systems, their design for minimizing installation and maintenance costs, and their placement.

CONTENTS—Measurement Variables. Thermal Variables. Radiation Variables. Force Variables. Quantity and Rate Variables. Geometric Variables. Physical Property Variables. Chemical Composition Variables. Electrical Variables. Fundamentals of Automatic Control Engineering. Information Processing. Metal and Ceramics Production Instrumentation. Process Industries Instrumentation. Laboratory and Pilot-Plant Instrumentation. Military Systems Instrumentation.

DRAPER, McKAY, AND LEES—Instrument Engineering

By C. S. DRAPER, WALTER MCKAY, and SIDNEY LEES, Massachusetts Institute of Technology. *Pub. in Aeron. Sc.*

A comprehensive reference book for the practicing engineer and an unusually complete textbook for students familiar with college physics and differential equations. It presents a generalized method of attack on the problems of measurement and control. It combines concepts, theory, methods, and results in a unified pattern that is effective for handling both simple and complicated situations. This pattern will be developed in three phases, with each of the three volumes corresponding to a separate phase, and while closely integrated, each volume will be independent of the others.

Volume I—Instrument Engineering

Methods for Describing the Situations of Instrument Engineering

288 *pp.*, 8½ *x* 11, *illus.* (1952).....$10.00*c*

CONTENTS—The Operating System. Diagrams for Describing Operating Systems. Performance Operators and Performance Functions for Operating Systems. Static and Dynamic Operating Conditions: Static Sensitivity. Static Performance. Dynamic Performance. Derivation of Performance Equations. Dimensional Analysis. Concepts and Notation for the Comparison of Physical Quantities. Concepts and Notation for the Description of Generalized Operating System Performance. Applications of Statistical Methods to Instrument Engineering. Representation of Physical Situations by Mathematical Forms. Description of Performance in Terms of Sinusoidal Response Characteristics.

Volume II—Instrument Engineering

Methods for Associating Mathematical Solutions with Common Forms

827 *pp.*, 8½ *x* 11, *illus.* (1953).....$20.00*c*

CONTENTS—Introduction. Nondimensionalization of Linear Integro-Differential Equations. Classical Method of Solving Linear Integro-Differential Equations. Operational Methods of Solving Linear Integro-Differential Equations with Constant Coefficients. The Relating Function, The Weighting Function, and the Transfer Function. Solutions Associated with First-order Differential Equation Forms. Solutions Associated with Second Order Differential Equation Forms. Transient Stability of Mathematical Solutions. Numerical Methods of Determining Transient Stability. Methods of Solving Third- and Fourth-order Characteristic Equations. Graphical Methods of Determining Transient Stability. Graphical Calculation of Steady-state Sinusoidal Relating Functions. Relating Function Forms from Pulse Function Responses. Representation of Solutions for Differential Equations with Nonlinear Terms of the Rate-determined Step Type. Numerical Analysis by the Number Series. Transformation Method. Bibliography. Index.

Volume III—Instrument Engineering

Applications of the Instrument Engineering Method. Part I: Measurement Systems

879 *pp.*, 8½ *x* 11, *illus.* (1955)....$19.00*c*

CONTENTS—Illustrations, Tables, and Summaries. Introduction. Concepts, Definitions, Diagrams, and Notation for Describing Operating Components and Operating Systems. Indication and Measurement. Elements and Components Associated with Instrument Systems. Temperature-measuring Instruments. Electromechanical Measuring Instruments. Pressure-measuring Systems. Integrators and Differentiators. Vibration Measurement and Vibration Isolation. Bibliography. Index.

ELONKA AND PARSONS—Standard Instrumentation Questions and Answers

For Production-Processes Control—Volumes I, II

By STEVEN M. ELONKA, *Power Magazine*, and ALONZO R. PARSONS, Minneapolis–Honeywell Regulator Company.

Volume I

238 *pp.*, 5⅜ *x* 8, 208 *illus.* (1962)....$8.50*i*

Volume II

244 *pp.*, 5⅜ *x* 8, 191 *illus.* (1962)....$8.50*i*

2-Volume Set.....$15.95*i*

These two volumes present a basic coverage of the field of instrumentation and control for the practical man in all fields of technology. Discusses, in question and answer form, these major topics: measuring systems for: temperature, flow, pressure and vacuum, level, chemical properties, physical variables; readout systems —direct indicating and recording, scanners and loggers; automatic control systems—characteristics, pneumatic, electrical and electronic, final control, computer control; educational opportunities in instrumentation. Emphasizes fundamental concepts and applications in production-process control and data processing.

FRIBANCE—Industrial Instrumentation Fundamentals

By AUSTIN E. FRIBANCE, Rochester Institute of Technology.

784 *pp.*, 6 *x* 9, 583 *illus.* (1962)....$10.50*c*

A comprehensive, introductory presentation of the basic theory and principles of the construction and operation of instruments most often used by industrial process companies. As mechanical instruments and electrical devices require entirely different designs, the initial study considers each group separately. At the point where sufficient material has been covered to insure familiarity, both types of devices are treated without further division or distinction. Text includes latest techniques and covers data logging, analog-to-digital conversions, and nomographs. A special feature, "Application Notes" gives the field and practical conditions that must exist if one is to obtain significant measurements.

CONTENTS—Preface. Part I. Principles Used in Instrumentation. Introduction. Understanding the Instrument Application. Basic Behavior of Materials. Basic Principles. Energy and Force Systems. Heat and Heat Transfer. Electrical Circuits and Devices. Alternating Current Circuits. Part II. Instrumentation in the Process Industry. Pressure Measurements, Mechanical Transducers. Pressure Measurements, Electrical Transducers. Liquid and Gas Flow Measurements, Mechanical Transducers. Flow Measurements, Electrical Transducers. Liquid Level Measurements. Temperature Measurements, Mechanical Transducers. Temperature Measurements. Electrical Transducers. Potentiometric Devices. Industrial and Recording Equipment. Analysis. Industrial Measurements with Radioisotopes. Humidity Measurements. Density and Viscosity Measurements. pH Measurements. Telemetering. INDEX.

GREENWOOD, HOLDAM, AND MacRAE—Electronic Instruments

Edited by IVAN A. GREENWOOD, JR., General Precision Laboratory, J. VANCE HOLDAM, JR., Laboratory for Electronics, Inc., and DUNCAN MACRAE, JR., The University of Chicago. Volume 21—*MIT Rad. Lab. Series.*

708 *pp.*, 6 *x* 9, 466 *illus.* (1948)....$13.50*r*

Treats details of the design of simple electronic computing systems, the practical aspects of the design of lightweight, low-powered electronic servomechanisms, the practical design of accurately stabilized power supplies, and the problems of design and construction of prototype equipment with special emphasis upon lightweight techniques and the limitations of available components.

CONTENTS—Part I. Electronic Analogue Computers: Introduction. Computer Design. Arithmetic Operations. Calculus. The Generation of Functions. Grouped Operations. Examples of Computer Design. Part II. Instrument Servomechanisms: Introduction and Summary of Design Procedure. Servo Theory—Introduction and Transient Analysis. Servo Theory—Frequency Analysis. Servo Theory—Evaluation and Correction of System Performance and Special Problems. Choice and Design of Components. Experimental Techniques. Special Servo Systems. Part III. Voltage and Current Regulators: Regulator Elements. Practical Regulator Design. Part IV. Pulse Test Equipment: Development and Design. Practical Radar Test Oscilloscope Designs. Index.

LEDGERWOOD—Control Engineering Manual

By BYRON K. LEDGERWOOD, *Control Engineering.*

200 *pp.*, 8½ *x* 11, *illus.* (1957).....$8.00*i*

Gives a logical step-by-step approach to the practice of control systems engineering in modern industry. Covers the field broadly, starting with fundamentals and advancing to the treatment of a variety of typical applications. There are sections on specification of control systems, synthesis of control systems, evaluating control systems, generating control functions, design techniques, AC analog computers, nonlinearity in control systems, and a comprehensive bibliography is included.

MARKUS AND ZELUFF—Handbook of Industrial Electronic Control Circuits

By JOHN MARKUS and VIN ZELUFF, *Electronics.*

352 *pp.*, 8½ *x* 11 (1956).....$11.00*hbL*

Designed as a reference guide for electronic engineers and designers, and servo-system designers. The material in this handbook has been culled from *Electronics* magazine, condensed, carefully edited, and logically assembled in the most useful form. It represents the work of over 350 contributors. It includes pertinent information on amplifier circuits, capacitance control circuits, cathode-ray control circuits, counting circuits, d-c amplifier circuits, measuring circuits, timing circuits, radiation circuits, and photo electric circuits.

McINTYRE—A-C Motor Control Fundamentals

By R. L. McINTYRE, National Joint Apprenticeship Committee for the Electrical Industry.

248 *pp.*, 6 *x* 9, *illus.* (1960).....$5.95*i*

A basic, concise presentation of motor control written for electricians, both professional and apprentice, servicemen, and students in trade, technical, and vocational schools. The material is well illustrated.

CONTENTS—Preface. Fundamentals of Control. Control of Motor Starting. Control Components. Pilot Devices. Control-Circuit Diagrams. Development of Control Circuits. Analysis of Control Circuits. Maintaining Control Equipment. Trouble-shooting Control Circuits. Principles of Static Control. Static Control Systems. Transistors as Logic Elements. Index.

MISHKIN AND BRAUN—Adaptive Control Systems

Edited by ELI MISHKIN and LUDWIG BRAUN, JR., Polytechnic Institute of Brooklyn. *Elec. & Electron. Engg. Series.*

533 *pp.*, 6 *x* 9, 389 *illus.* (1961)....$17.50*c*

A highly coordinated approach to theory and application as related to the major aspects of feedback control systems—specifically, adaptive systems. The book furnishes an up-to-date account of research in the field of adaptive and computer-controlled adaptive systems, and makes available important material prerequisite to the understanding of those systems. The coordination of these two aims—one conceptual, the other practical—results in a definitive coverage of the major aspects of the theory and design of feedback control systems.

CONTENTS—"The Concept of Adaptive Control"—*J. G. Truxal.* PART I. LINEAR SYSTEMS: "Linear Control Systems—Some Modern Points of View"—*W. A. Lynch.* "Identification of Process Dynamics"—*J. C. Truxal.* "Control Systems—Some Unusual Design Problems"—*J. G. Truxal.* "Sampled-data Systems"—*Martin L. Shooman.* PART II. MONOLINEAR SYSTEMS: "Design of Intentionally Nonlinear Systems"—*K. R. Kaplan.* "Analysis and Design in the Phase Plane"—*Eli Mishkin.* "The Analytical Theory of Nonlinear Systems"—*Eli Mishkin.* PART III. ADAPTIVE CONTROL SYSTEMS: "Automatic Methods of Process Identification"—*Richard A. Haddad* and *Ludwig Braun, Jr.* "Adaptive Control Systems"—*Joseph J. Bongiorno, Jr.* "Computer-controlled Adaptive Control Systems"—*Ludwig Braun, Jr.* "Some Unusual but Nonadaptive Systems"—*Richard A. Haddad.* PART IV. SELECTED TOPICS IN SYSTEMS ENGINEERING: "Digital Techniques"—*Melvin M. Drossman.* "Analysis of Competitive Situations"—*Lawrence P. Grayson.* "Decision Theory"—*John G. Truxal* and *Joseph J. Padalino.* "Analysis of Queueing Systems"—*Eli Mishkin.* "Multistage Decision Processes"—*John C. Truxal.*

RHODES—Industrial Instruments for Measurement and Control

By THOMAS J. RHODES, The Procter & Gamble Company. *Series in Chem. Engg.*

573 *pp.*, 6 *x* 9, *illus.* (1941).....$10.50*r*

Covers in a theoretical and practical treatment the measurement and control of the four fundamental physical factors encountered in industrial processing and manufacturing: temperature, presssure, fluid flow, and liquid level. Automatically controlled continuous processes are thoroughly analyzed and practical rules are established for the design and maintenance of controlling instruments.

CONTENTS—Standards. Pressure and Vacuum Gauges. Indicating and Recording Thermometers. High-temperature Pyrometry. Theory of Differential-pressure Flow Meter Primary Measuring Instruments. Differential-pressure Flow Meter Secondary Measuring: Recording and Integrating Elements. Miscellaneous Inferential and Volumetric Flow Meters. Liquid-level Measurements. Telemetering. Automatic-control Theory. Automatic-control Mechanisms. Miscellaneous Industrial Instruments.

SISKIND—Electrical Control Systems in Industry

By CHARLES S. SISKIND, Purdue University.

508 *pp.*, 6 *x* 9, 364 *illus.* (1963)....$9.00*c*

Emphasizes present-day electrical control practices involving the use of many new and special kinds of equipment, higher degrees of precision, better safety and protection methods, and circuitry that provides more automatic functions. The book deals primarily with electromagnetic control systems as they are applied to the operation and control of most types of rotating energy converters such as generators and motors. The various special components involved are carefully described

and illustrated in the many control-circuit diagrams and problems. The text includes material dealing with feedback systems, magnetic and rotating amplifiers, and static-switching systems, and special types of speed-control schemes.

CONTENTS—Electrical Components for Control Circuits. Manual Starters for D-C and A-C Motors. Automatic Starters and Control Circuits and D-C Motors. Master Controllers and Control Circuits for D-C Motors. Protective Devices. Automatic Starters and Control Circuits for Polyphase Motors. Speed Control of D-C and A-C Motors. Control of Single-Phase Motors. Rotating and Magnetic Amplifiers in Control Circuits. Auxiliary Devices and Special Control Circuits. Regulators and Regulating Systems. Special Control Circuits and Problems. Static Switching Circuits and Control. Answers.

SOISSON—Electronic Measuring Instruments

By HAROLD E. SOISSON, General Electric Company.

352 *pp.*, 6 *x* 9, *illus.* (1961).....$7.50*c*

This is an introduction to the science of electronic measurement and control in laboratory and industrial applications to serve as a general background for advanced work at an engineering level or for entrance into the field of electronic instrument measurements and control. It includes fundamental concepts to establish a common background for the terms, basic components, symbols and nomenclature necessary to adequately understand electronic instruments and their use. Emphasis is placed on the function and use of the basic components employed in the measuring system. The component concept is used in the early chapters to establish the function of the primary elements used as detectors, transfer units and end devices. The mathematical presentations have been made in algebraic and trigonometric terms in most cases. Where higher mathematics are required the terms used are explained for that particular application.

CONTENTS—The Use of Electronic Instruments in Measuring. Fundamental Concepts. Detectors. Amplifiers. Power Supplies. Semiconductors. Basic Meter and Recorder Movements. Instruments for Measuring Current, Voltage, and Power. Instruments for Measuring Resistance, Impedance, Inductance, and Capacitance. Oscilloscopes. Oscillators. Tube and Transistor Checkers, and Calibration Units. Counting Instrumentation. Optical-Electronic Measuring Instruments. Introduction to Computers and Stimulators. Electronic Instrumentation and the Future. Appendix. Mathematical Expansions on Total Work, Instantaneous Current, and Self-inductance. Abbreviations and Symbols. Greek Symbols. INDEX.

JAMES AND MARKLE—Controllers for Electric Motors

By HENRY DUVALL JAMES and LEWIS EDWIN MARKLE, formerly Westinghouse Electric Corp. Second Edition.

418 *pp.*, 6 *x* 9, 421 *illus.* (1952)....$8.50*iL*

For engineers responsible for selecting the type of control best suited for their requirements and for the men who maintain this equipment in successful operation. It brings together sufficient material on controllers to give the reader a good idea of their design, their operation, and the types that are available on the market.

CONTENTS—Function and Types of Control. How to Read Controller Diagrams. How to Make Controller Diagrams. Magnetic Contactors. Starting Characteristics of Motors with Different Methods of Control. Methods of Accelerating Motors. Methods of Speed Control. Control for Special Applications. Mechanical and Dynamic Braking. Regeneration. Voltage Control for Direct-current Motors. Dynamoelectric Amplifiers. Magnetic Amplifiers. Series-parallel Control and the Electropneumatic Contractor. Adjustable-speed Alternating-current Motors of the Wound-rotor Type. Types of Resistors. Manual Controllers. Direct-current Magnetic-contactor Controllers. Alternating-current Controllers. Synchronous-motor Control. Electric-tube Control. Remote and Supervisory Control. Protective Devices: National Codes, Installation, and Maintenance, Future Control Developments. References. Index.

MILLER—Maintenance Manual of Electronic Control

Edited by ROBERT E. MILLER, Weller Manufacturing Company.

305 *pp.*, 6 *x* 9, *illus.* (1949).....$7.50*iL*

A practical manual on the application, installation and maintenance of electronic control equipment. No mathematics is involved. Outlines step-by-step procedure in the installation, routine maintenance, and trouble shooting of timing relays, time delay relays, photoelectric relays, electronic motor control, welding control, furnace temperature control, and mercury arc rectifiers. Amply supplemented by check charts and illustrative material.

CONTENTS—Circuits of Electronic Controls. General Considerations in Installing and Maintaining Electronic Control. The Cathode-ray Oscilloscope—What It Is, How to Use It. Installing, Maintaining, and Servicing Electronic Relays and Timing Relays. Installing, Maintaining, and Servicing Photoelectric Relays. Installing, Maintaining, and Servicing Electronic Motor Control. Installing, Maintaining, and Servicing Electronic Resistance-welding Control. Installing, Maintaining, and Servicing Electronic Temperature-contol Systems. Installing, Maintaining, and Servicing Sealed-ignition Rectifiers.

Dynamic Systems

TOMOVIC—Sensitivity Analysis of Dynamic Systems

By RAJKO TOMOVIC, Univ. of Belgrade, Yugoslavia. *Electron. Sci. Series.*

In Press

Graduate level text introducing a new design method for electrical, mechanical, and other types of systems. It treats analytical, computer, and simulation methods for defining the influence of parameter perturbations on the behavior of dynamic systems. In the first part engineering methods for defining parameter influence coefficients are analyzed and following chapters show important applications in the synthesis and design of control systems. Special attention is given to sensitivity with respect to large parameter perturbations as is the relation between Liapunov's stability and sensitivity.

Sampled-data Systems

RAGAZZINI AND FRANKLIN—Sampled-data Control Systems

By JOHN R. RAGAZZINI, New York University, and GENE F. FRANKLIN, Stanford University. *Series in Cont. Syst. Engg.*

331 *pp.*, 6 *x* 9, 177 *illus.* (1958).....$10.50*i*

Written for graduate students, practicing engineers, and scientists, this book represents a unified treatment of the available material on the analysis and design of linear sampled-data or discrete systems. Theoretical topics are treated by relating the techniques required for the understanding of sampled-data systems to the techniques commonly used in the analysis and design of continuous systems. The book extends beyond conventional techniques to develop, with the aid of the Z-transform, the time domain synthesis methods which seem to be peculiar to sampled-data systems.

CONTENTS—Preface. Introduction. The Sampling Process. Data Reconstruction. The Z-transform Analysis of Linear Sampled-data Systems. Sampled-data Systems. Application of Conventional Techniques to the Design of Sampled-data Control Systems. Digital

Compensation of Sampled-data Systems. Behavior of Systems between Sampling Instants. Multirate Sampled Systems. Sampled-data Systems with Random Inputs. Miscellaneous Applications of Sampled-data Theory. Appendix I—Table of Z Transforms. Appendix II—Table of Advanced Z Transforms. Appendix III—Output Transforms for Basic Sampled-data Systems. References. Additional References. Index.

TOU—Digital and Sampled-data Control Systems

By JULIUS T. TOU, Purdue University. *Elec. & Electron. Engg. Series.*

631 *pp.*, 6 *x* 9, 350 *illus.* (1959)....$16.00*c*

Written to provide scientists, engineers, and system analysts with a comprehensive, well-organized, and up-to-date account of the basic theory and available techniques for the analysis and design of digital and sampled-data control systems and related problems. Much of the material in this book has previously been available only in various technical journals or proceedings of conferences.

CONTENTS—Preface. Introduction. Continuous-data Control Systems. Basic Theory of Sampling and Quantizing. Frequency Domain Analysis. Theory of the *z* Transformation. *z*-Transform Analysis. Transient Response and System-error Analysis. Analog-digital Conversion Principles. General Design Principles. Optimum Control through Digital Compensation. Analysis of Sampled-data Control Systems with Finite Sampling Duration. Appendix 1. Table of *z* Transforms and Modified *z* Transforms. Appendix 2. References. Appendix 3. Problems. Index.

Information Processing and Computers

McGRAW-HILL SERIES IN INFORMATION PROCESSING AND COMPUTERS

(Series in Info. Proc. & Cmptr.)

J. P. Nash, Consulting Editor

Manager, Associate Director of Communications and Controls, Lockheed Aircraft, Guided Missile Division

Davis—Computability and Unsolvability
Evans and Perry—Programming and Coding for Automatic Digital Computers
Gotlieb and Hume—High Speed Data Processing
Humphrey—Switching Circuits
Karplus—Analog Simulation
Ledley—Programming and Utilizing Digital Computers
Levine—Methods for Solving Engineering Problems
McCormick—Digital Computer Primer
Oakford—Introduction to Electronic Data Processing Equipment
Rogers and Connolly—Analog Computation in Engineering Design
Scott—Analog and Digital Computer Technology
Williams—Digital Computing Systems
Wrubel—A Primer of Programming for Digital Computers

Computers and Computing

ARBIB—Brains, Machines, and Mathematics

By MICHAEL ARBIB, Massachusetts Institute of Technology.

In Press

For the reader who wishes to gain from one source a better understanding of such topics as cybernetics, information theory, and Gödel's theorem. A moderate mathematical background is required for full use of the book. No previous study of biology or computers is assumed.

CONTENTS—Neural Nets. Finite Automata, and Turing Machines. Structure and Randomness. The Correction and Errors in Communication and Computation. Cybernetics. Gödel's Incompleteness Theorem. The Brain-Machine Controversy.

BARTEE—Digital Computer Fundamentals

By THOMAS C. BARTEE, Massachusetts Institute of Technology.

342 *pp.*, 6 *x* 9, *illus.* (1960).....$6.50*c*

This book presents a complete introductory course in the principles of digital computers. The function of the computer is described, along with its application in business, and industrial and scientific organizatons. The steps necessary to preparing a problem for a computer are then covered. The description of switching circuits and logical algebra early in the book prepares the student for subsequent material. The concept of the "register" and the definition of the "transformation of a register's contents" and "operations between registers" are also given early in the text, making the material easier to understand and technically more precise. Questions and references are provided for each chapter. Good balance of theory and practical applications are reflected within the context of the material.

CONTENTS—Preface. Computer Operations. Programming. Number Systems. Basic Logical Circuits. Logical Design. The Arithmetic Element. The Memory Element. Input-output Devices. The Control Element.

BARTEE, LEBOW, AND REED—Theory and Design of Digital Machines

By THOMAS C. BARTEE, IRWIN LEBOW, IRVING S. REED, Lincoln Laboratory, Massachusetts Institute of Technology. *Linc. Lab. Pub.*

352 *pp.*, 6 *x* 9, 75 *illus.* (1962)....$11.50*c*

This book presents an integrated approach to the design of modern digital machines. Although basically a textbook, the book will appeal to the practicing engineer, since the design techniques described are the result of a number of years experience in actual machine design. It does not contain a description of circuit or component design but rather treats machine design from a general viewpoint. Since an introduction to theory of switching circuits is included, a unique feature is the integrated approach to both the disciplines of machine design and switching theory. Finally the book is significant for its depth and breadth of treatment of the design of digital machines.

CONTENTS—Digital Machines and Systems. Binary Cells and Registers. Boolean Algebra and Logic Design. Systematic Minimization Techniques. Mathematical Foundations. Register Operations. Introduction to Sequential Networks. Elementary Machines. General-Purpose Computers. Special-Purpose Computers. Sequential Machines. Appendix. Index.

BUCHHOLZ—Planning a Computer System
By WERNER BUCHHOLZ, IBM Corporation.
336 *pp.*, 6 *x* 9, 95 *illus.* (1962).....$9.75*c*
A collection of papers covering the planning of an entire digital computer system: the choice of instruction set, major components, overall design approach, and general features needed to satisfy a given objective. Its intent is to describe the design of the IBM 7030, which grew out of a design project called "Project Stretch." The authors of the various chapters all participated actively in "Project Stretch." The book, therefore, reflects the reality of direct personal experience, giving reasons for design choices and stating compromises between conflicting requirements.
CONTENTS—Preface. Project Stretch. Architectural Philosophy. System Summary of IBM 7030. Natural Data Units. Choosing a Number Base. Character Set. Variable-field-length Operation. Floating-point Operation. Instruction Formats. Instruction Sequencing. Indexing. Input-Output Control. Multiprogramming. The Central Processing Unit. The Look-ahead Unit. The Exchange—A Nonarithmetical System Extension. APPENDIXES.

BURROUGHS CORPORATION—Digital Computer Principles
Written by STAFF OF TECHNICAL TRAINING DEPARTMENT, Burroughs Corporation.
518 *pp.*, 6 *x* 9, 346 *illus.* (1962)....$10.75*i*†
This text describes in detail all aspects of the digital computer including logic and language, circuitry, and operation. It is designed to introduce future computer maintenance and design technicians and electrical engineers to digital computer components and operation. The material prepares the student for the advanced concepts he will encounter in his specialty. Presupposing a general knowledge of electronics, the text covers pulse techniques, computer circuitry and organization of computer systems and data processors. The material is divided into three sections. Section I provides the necessary groundwork in computer technology and an introduction to computer logic symbols, gates and concepts of switching. Section II presents an analysis of basic computer circuits. First, vacuum tube circuit operation is explained, then circuitry. Section III illustrates, with the use of symbols, how the basic elements described in foregoing sections are compounded to form functional computer units. Data flow and programming are also discussed to acquaint the reader with methods of controlling the computer.
CONTENTS—SECTION I: FUNDAMENTALS OF COMPUTERS AND TRANSISTORS. 1. Introduction to Computers. 2. Computer Elements and Symbology. 3. Number Systems. 4. Boolean Algebra. 5. Fundamentals of Magnetic Devices. 6. Introduction to Semiconductor Devices. 7. Transistor Switching Characteristics. SECTION II. COMPUTER CIRCUITS. 8. Transistor Gate Logic. 9. Multivibrators. 10. The Bistable Multivibrator (Flip-Flop). 11. Schmitt Trigger. 12. Blocking Oscillators. 13. Timing Oscillators. 14. Special-purpose Amplifiers. 15. Ferromagnetic Cores. SECTION III. COMPUTER UNITS. 16. Binary Counters and Decoders. 17. Storage and Shift Registers. 18. Diode and Transistor Matrices. 19. Adders and Subtracters. 20. Computer Control and Data Flow. 21. The Arithmetic Unit. 22. Computer Memory Systems. 23. Input-Output Systems. 24. Programming the Computer. Appendix: I. Digital Symbology; II. General Bibliography; III. Glossary of Computer Terms. INDEX.

CHAPIN—Programming Computers for Business Applications
By NED CHAPIN, Ph.D., Stanford Research Institute.
275 *pp.*, 6 *x* 9, 91 *illus.* (1961).....$8.75*i*
Provides a sound basis for programming computers geared to business applications. Offers an explanation and guide to the thinking that a programmer must do, including a carefully graded series of didactic programming examples. Covers basic principles common to all computers, and treats such topics as why thorough programming is essential to profitable use of ADPS; fundamental procedures common to all programming; flow diagraming; techniques of programming and coding; sorting, reruns, buffer use, timing, random-access and interrupt-programming situations; and file processing. Discusses techniques for assuring accuracy in data processing, together with a rundown of up-to-date automatic programming methods. Considers audit-trail requirements and other helpful considerations. Emphasizes areas of programming in which specialized problems of business applications arise.
CONTENTS—Programmers and Programming. Automatic Computers. Preparation for Programming. Translation Programming. Development Programming. Programming to Save Storage. Programming for Accuracy. Programming for Speed. Subroutines and Library Programs. APPENDIX.

CHU—Digital Computer Design Fundamentals
By YAOHAN CHU, Manager, Information Electronics, Research Division, Melpar, Inc. and the University of Maryland.
496 *pp.*, 6 *x* 9, 405 *illus.* (1962)....$15.00*c*
This book presents the fundamental topics of digital arithmetic, Boolean algebra, logic circuits, computer elements, arithmetic units, and control units. It uses symbolic and algebraic approach for computer design, illustrated by the logic design of a simple digital computer. The primary function of this book is to teach fundamentals of a stored-program digital computer so as to show how it works and how to design one. The basic digital technique is also applicable to the design of other digital machines whose future may outgrow the digital computer itself. No previous knowledge of digital computers is required; but a knowledge of college mathematics and a general understanding of electronics is beneficial for an understanding of the subject matter.
CONTENTS—Preface. DIGITAL ARITHMETIC—I: Number Systems. Number Base Conversion. Single-digit Binary Arithmetic. Signed Binary Numbers. Binary Addition and Subtraction—I. Binary Addition and Subtraction—II. Binary Addition and Subtraction—III. Binary Multiplication. Binary Division. Binary Square Root. Round-off and Overflow. Problems. References. DIGITAL ARITHMETIC—II. Binary-coded Decimal Number Systems. Signed Decimal Numbers. Decimal Addition and Subtraction. Decimal Multiplication. Decimal Division. Floating-point Arithmetic. Residue Number Arithmetic. Error-checking Codes. Problems. References. BOOLEAN ALGEBRA: Postulates. Fundamental Theorems. Use of Fundamental Theorems. Boolean Functions and Truth Table. Canonical Forms of Boolean Functions. Theorems on Boolean Functions. Boolean Functions of Two Variables. Elementary Terms and Elementary Forms. Other Basic Logic Operations. Symmetric Boolean Functions. Canonical Symmetric Functions. Simple Symmetric Functions. Delay and Sequential Functions. Linear Sequential Functions. Flipflops and State Equations. Majority and Minority Logic Operations. Problems. References. MINIMIZATION OF THE BOOLEAN FUNCTION: Veitch-diagram Method. Harvard-chart Method. Minimization by Quine-McCluskey Method. Machine Minimization. Limitations of Minimization Methods. Problems. References. LOGIC CIRCUITS—I: Logic Circuits. Relay Logic Circuits. Vacuum-tube Circuits. Diode Logic Circuits. Switching Properties of Junction Transistors. Resistance-coupled Transistor Logic(RCTL) Circuits. Transistor Flipflops. Transistor-Diode Logic(TDL) Circuits. Transistor-Resistor Logic(TRL) Circuits. Direct-coupled Transistor Logic (DCTL) Circuits. Transistor-current-switch Logic(TCSL) Circuits. Clocking Configuration. Other Digital Circuits. Problems. References. LOGIC CIRCUITS—II: Switching Characteristics of Cryotrons. Cryotron Logic Circuits. Thin-film Cryotrons. Tunnel-diode

† *Textbook edition available at educational list price.*

Logic Circuits. Parametric-phase-locked-oscillator (PLO) Logic Circuits. Microwave Logic Circuits. Electroluminescent-Photoconductor Logic Circuits. References. MAGNETIC-CORE LOGIC CIRCUITS: Magnetic-core Characteristics. Logic Operations on a Single Core. Single-diode Transfer-loop Circuits. Single-shift-line Transfer-loop Circuits. Other Transfer Loops. Magnetic-core-Transistor Logic Circuits. Ferractor Magnetic-amplifier Logic Circuits. Mirror Symbol. Synthesis of Magnetic-core Logic Circuits. Magnetic-rod Logic Circuits. Parametron Logic Circuits. Problems. References. MAGNETIC MULTIAPERTURE-CORE LOGIC CIRCUITS: Flux-summation-core Logic Circuits. Laddic Logic Circuits. Biax Logic Circuits. Transfluxor Logic Circuits. MAD Logic Circuits. References. SWITCHING MATRICES: Multiple-ouput Switching Circuits. Switching Matrices. Applications of Switching Matrices. Diode Switching Matrices. Synthesis of Diode Switching Matrices. Binary Sequence Generators. Simplification of Boolean Matrix Function. Magnetic-core Switching Matrices. Synthesis of Magnetic-core Switching Matrices. Magnetic-core Current-steering Matrices. Transistor Switching Matrices. Other Switching Matrices. Problems. References. DIGITAL COMPUTER ELEMENTS: Binary Adders and Subtracters. Binary Complementers. Shift Registers. Counters. Information Transfer. Binary Accumulators. Propagation of Carry or Borrow. Generation of Control Signals. Problems. References. LOGIC DESIGN OF A SIMPLE DIGITAL COMPUTER: Computer Design. System Design. Functional-design Phase. Symbolic-design Phase. A Tabular Study of Sequential Operations. Detail-design Phase. Complete Computer. Problems. References. ARITHMETIC AND CONTROL UNITS: A Parallel Binary Arithmetic Unit. A Serial Binary Arithmetic Unit. Binary Multipliers. A Serial Binary Floating-point Arithmetic Unit. Instruction Formats and Repertoire. Control Units. Microprogrammed Control Units. Other Microprogrammed Control Units. Problems. References. Index.

DAVIS—Computability and Unsolvability

By MARTIN DAVIS, Rensselaer Polytechnic Institute, Hartford Graduate Center. *Series in Info. Proc. & Comptr.*

210 *pp.*, 6 *x* 9, *illus.* (1958) $8.50*i*

An introduction to the theory of computability and noncomputability, this text is concerned with the existence of purely mechanical procedures for solving various problems. The book gives a connected presentation of the theory of computability from the intuitively suggestive point of view of Turing's machines. By combining Turing's approach with the powerful syntactic methods of Gödel and Kleene, the author is able to present the various aspects of the theory of computability, from Post's normal systems to the Kleene hierarchy, in a unified manner. No special mathematical training is necessary on the reader's part.

CONTENTS—Preface. Glossary. Introduction. I. THE GENERAL THEORY OF COMPUTABILITY. Computable Functions. Operations on Computable Functions. Recursive Functions. Turing Machines Self-applied. Unsolvable Decision Problems. II. APPLICATIONS OF THE GENERAL THEORY. Combinatorial Problems. Diophantine Equations. Mathematical Logic. III. FURTHER DEVELOPMENT OF THE GENERAL THEORY. The KLEENE Hierarchy. Computable Functionals. The Classification of Unsolvable Decision Problems. Appendix. Some Results from the Elementary Theory of Numbers. Index.

EVANS AND PERRY—Programming and Coding for Automatic Digital Computers

By G. W. EVANS II, Stanford Research Institute; and C. L. PERRY, University of California, La Jolla. *Series in Info. Proc. & Comptr.*

262 *pp.*, 6 *x* 9, 104 *illus. and tables* (1961) $9.50*i*

Techniques, methods, and facts essential to programming digital computers efficiently are brought together in this practical book. It outlines systematic procedures that enhance programming and coding skills . . . explains the computer's basic design so you can use it effectively. Derivation of numerical representations simulated by computers—flow diagraming—programming of machines with random access or serial main memories . . . and other subjects are covered. Explains the use of magnetic tape auxiliary memories, and discusses automatic coding techniques, numerical analysis, and Boolean algebra. Also describes how the computer installation is established, organized, and operated for maximum performance.

CONTENTS—Some Basic Concepts in Programming and Coding. Numerical Representations, Arithmetic Operations, and Scaling. Programming and Coding. Coding with *B*-boxes. Subroutines. Parallel and Serial Modes of Computer Operation and Optimum Coding. Magnetic-tape Units and Programming. Some Aspects of Automatic Programming. Mathematical Aid for Programming and Computer Design. Numerical Analysis. Organization of a Computer Installation.

FEIGENBAUM AND FELDMAN—Computers and Thought

Edited by EDWARD FEIGENBAUM and JULIAN FELDMAN, Univ. of California, Berkeley. *In Press*

Presents source readings, consisting mainly of research reports, in two areas related to "thinking by machine"—artificial intelligence and computer simulation of human thought processes. Theory, techniques, and actual results are discussed.

CONTENTS—Artificial Intelligence: A. M. Turing, Allen Newell, J. C. Shaw, H. A. Simon, A. L. Samuel, H. Gelernter, J. R. Hansen, D. W. Loveland, Fred M. Tonge, James R. Slagle, Bert F. Green, Jr., Alice K. Wolf, Carol Chomsky, Kenneth Laughery, Robert K. Lindsay, Oliver G. Selfridge, Ulric Neisser, Leonard Uhr, Charles Vossler. Simulation of Cognitive Processes: Allen Newell, H. A. Simon, E. A. Feigenbaum, Earl B. Hunt, Carl I. Hovland, G. P. E. Clarkson, Julian Feldman, John T. Gullahorn, Jeanne E. Gullahorn. Survey of Approaches and Attitudes: Marvin Minsky, Paul Armer. Bibliography: Marvin Minsky.

FIFER—Analogue Computation

By STANLEY FIFER, President, Dian Laboratories, Inc.

1331 *pp.*, 6 *x* 9, *illus. 4 volume set, not sold separately* (1960) $39.50*iL*

A four-volume library that covers the analog computer's work by means of a broad and comprehensive treatment of all the elements of physics, mathematics, programming, and computer engineering and design. The analog field as a whole is dealt with, including pointers on the similarities and differences among the various types. Attention is focused on error analysis of components and solutions, so that the accuracy and precision of solutions may be evaluated and optimized. Considerable space is devoted to the study of practical problems; for instance, a full chapter is given to develop the necessary physics, mathematics, and programming for study of the dynamics of aircraft motion, flutter, and noise.

CONTENTS—Introduction. D-C Feedback Amplifier. The Linear Potentiometer. Linear Differential Equations with Constant Coefficients. Multipliers. Resolvers. The Diode. The Relay. Recorders and Analogue-to-Digital Converters. Function Generators. Time-Varying and Nonlinear Differential Equations. Function Generation Techniques. Transfer Functions. Checking and Error Analysis. D-C Amplifier Design. Selected Techniques. Repetitive, A-C, Magnetic, Transistor, and Thermal Computers. The Mechanical Differential Analyzer. The Network Analyzer. Partial Differential Equations. Linear Simultaneous Algebraic Equations. The Polynomial Equation. The Secular Equation. The Potential Analogue. Fourier Analysis. Noise. The Adjoint Method. The Dynamics of Flight. Flutter. Advanced Techniques.

ANALOGUE COMPUTATION LIBRARY
$39.50*i*

Fifer—Analogue Computation
(4 volumes—not sold separately)

GALLER—The Language of Computers
By BERNARD A. GALLER, The University of Michigan.
254 *pp.*, 6 x 9, 47 *illus.* (1962).....$8.95*c*
The basic approach in this book is the gradual development of a computer language, accomplished by examining several typical problems. Each problem is examined in detail, showing the need for adding new features to the language. All problems illustrate techniques actually needed in solving real problems in computers. Ideas and techniques involved in communicating to a computer the solution of a problem are introduced.
CONTENTS—Preface. Introduction. The Change Problem. Expressions. Conditional Statements and Iteration Statements. The Social Security Problem. The Secret-code Problem. Monte Carlo Methods. A Sorting Problem. The Correlation Coefficient. A Program to Produce Programs. Simultaneous Linear Equations. The MAD Language. Other Computer Languages. Appendix A, B, C. Index.

GILL—Introduction to the Theory of Finite-State Machines
By ARTHUR GILL, University of California.
216 *pp.*, 6 x 9, 80 *illus.* (1962).....$9.95*c*
The purpose of this book is to present, at an advanced undergraduate or first year graduate level, an introductory exposition of the concepts and techniques underlying a small but very basic part of what is commonly known as "the theory of automata." The book explains the ideas and techniques underlying the theory of synchronous, deterministic, finite-state machines. Emphasizing linear binary machines, the book concentrates on the basic system-theoretic concepts of automata—machine characterization, transition matrices, state and machine equivalence, machine minimization, identification experiments for states and machines, fault identification, information-lossless machines, and finite-memory machines.
CONTENTS—Preface. The Basic Model. Transition Tables, Diagrams, and Matrices. Equivalence and Machine Minimization. State Identification Experiment. Machine Identification Experiments. Finite-memory Machines. Input-restricted Machines. Problems. Bibliography. Index.

GOTLIEB AND HUME—High-speed Data Processing
By C. C. GOTLIEB and J. N. P. HUME, both of the University of Toronto. *Series in Info. Proc. & Comptr.*
338 *pp.*, 6 x 9, 76 *tables*, 83 *illus.*.....$10.00*i*
A systematic, introductory treatment of the important principles and techniques for processing data at high speeds. Covers the three main aspects of the subject: machine descriptions, coding and programming, and business applications. A hypothetical machine, a synthesis of several existing machines is used as a model, to give the reader the fundamentals of all data processors, how they work, and how to use them.
CONTENTS—Computers and Data Processors. The Representation of Information. Functional Units. Machine Organization. The Instruction Code. Analyzing, Programming, and Coding. Coding Examples. Reliability and Checking. A Comparative Study of Machine Techniques. Files in Data Processors. Insurance Applications. Accounting Applications. Planning and Scheduling. Automatic Programming.

GREEN—Digital Computers in Research
An Introduction for Behavioral and Social Scientists
By BERT F. GREEN JR., Carnegie Institute of Technology. *Linc. Lab. Pub.*
333 *pp.*, 6 x 9 (1963).....$10.75*r*
The first unified textbook on programming and applications designed specifically for the behavorial scientist. The first part deals with the elements of programming, the second part with digital codes, and the third part considers current computer applications in the behavioral sciences. Finally, the book takes up the logical foundations of computers.
CONTENTS—PROGRAMMING. Introduction. Functional Description of Digital Computers. Basic Programming. Programming Techniques. Programming Languages. INFORMATION PROCESSING. Digital Codes. Programming for Information Processing. BEHAVIORAL SCIENCE APPLICATIONS. Statistical Calculations and Data Analysis. Random-Number Generation. Stimulus Generation. Computer Models of Psychological Processes. Man-Computer Systems. Communicating in Natural Language. The Baseball Program. SOME COMMUTER THEORY. Inside the Black Box. Turing Machines and Computability.

HUSKY AND KORN—Computer Handbook
By HARRY D. HUSKY and GRANINO A. KORN, University of Arizona.
1288 *pp.*, 6 x 9, 1099 *illus.* (1961)..$25.00*hb*
Gives detailed technical information and a wealth of industrial know-how on modern design practices in the field of analog-computer components and systems. Included are general-purpose analog computers and representative special-purpose machines. Many actual circuit diagrams are included as concrete examples of design principles or for direct adaptation to the designer's problems. Covered are such areas as basic terminology, design of electronic-analog-computer building blocks, and electronic multiplier and resolver circuits. In addition, the handbook describes significant applications of electronic analog computers; modern techniques such as dynamic storage computation, and repetitive computer techniques for statistical problems; and solid-state (transistor) analog-computer components. Also treated are important analog techniques such as network-type analogies for fields, structures and power systems; and for mechanical, electromechanical, hydrodynamic, and heat-transfer computing elements.

JEENEL—Programming for Digital Computers
By JOACHIM JEENEL, IBM Corporation.
528 *pp.*, 6 x 9 (1959).....$13.50*r*
Designed for readers with no previous programming experience, this work provides a methodical approach to the preparation of problems for stored-program calculators. The approach is based on the representation of a program as a logical structure of standardized building blocks. The principles and procedures apply to scientific and commercial data processing problems; they pertain to stored-program calculators in general, and are not restricted to specific machines. The book is both theoretical and practical in the sense that it will give the reader enough theory to do a good job in practice.
CONTENTS—INTRODUCTION. STORED-PROGRAM CALCULATORS. General Organization. Information Representation. Memory, Storage, and Input-Output. Arithmetic. Control. PROGRAMS: ADDRESSING IN MEMORY. One-dimensional Arrays. Multi-dimensional Arrays. Automatic Address Modification. Data Transfers. Table Look-up. Indirect Addressing. Extracting and Packing. PROGRAMS: SEQUENCING. Techniques. Simulation Problems. Links. Serial and Parallel Sequencing. PROGRAMS: STORAGE AND INPUT-OUTPUT. Techniques. Network Problems. Rearranging on Tapes. Sorting on Tapes. Random-access Storage. PROBLEM PREPARATION. Phases of the Process. Programming. Coding. Efficiency. LANGUAGES. Library. Pseudo Codes. Symbolic Codes. OPERATING, TESTING, AND CHECKING. Operating. Program Testing. Machine Checking. PROBLEM PLANNING. The Process of Planning. Properties of Problems. Properties of Calculators. APPENDIXES. Number Systems. Precision and Scaling. Sorting of Pairs. Conversion between Decimal and Binary Representation.

Sorting by Merging. A Procedure for Matrix Inversion. Optimum Programming. Alternative Plans for a Network Problem. Memory as Buffer. INDEX.

JACKSON—Analog Computation

By ALBERT S. JACKSON, Control Technology Inc.

652 *pp.*, 6 *x* 9, 383 *illus.* (1960).....$13.50*c*

The approach taken in this book successfully removes the subject of analog computation from the narrow field to which it has been customarily restricted. Analytical and numerical means of solution, as well as the origins and basic properties of various mathematical models, are briefly reviewed before analog computation is considered. The reader will become familiar with the type of problem that can be solved by analog computation, and with the forms and origins of those problems. Specific means of the analog computer solution are presented in detail.

CONTENTS—Introduction. The Basic Analog Computer. Amplitude and Time Scale Factors. Linear Differential Equations. Nonlinear Differential Equations. Simulation. Problem Set-up and Algebraic Matrix Problems. The Role of Analog Computation in Operations Research. Representative Applications. The Basic Analog Computer Components. Operational Amplifier Design. Digital Techniques. Appendices: Problem Sets; Routh's Criterion; Lienard's Construction Method; Synthesis of Transfer Functions Using Networks; Synthesis of Transfer Functions Using Summers and Integrators; Special Techniques; Selected Laboratory Problems.

JOHNSON—Analog Computer Techniques, 2nd Ed.

By CLARENCE L. JOHNSON, Lt. Colonel, U. S. Air Force.

336 *pp.*, 6 *x* 9, 198 *illus.* (1963).....$8.95*c*

Designed to ease the transition from neophyte to experienced computer operator. Following the introductory general material on the electronic analog computer and computation, the volume proceeds to specific techniques for solution of difficult or unusual problems. Wherever practical, techniques and principles have been presented in such a manner that an individual with a minimum knowledge of mathematics and electronics can readily understand them. In the second edition many recent equipment improvements and advanced techniques are included that have extended the uses of the analog computer to many new areas, among them the simulation of electronic systems.

CONTENTS—Introduction. The Linear Computer Components. Time- and Amplitude-scale Factors. The Synthesis of Servomechanism Systems. Additional Linear-component Applications. Multipliers and Resolvers. Some Multiplier and Resolver Applications. The Representation of Nonlinear Phenomena. Simulation of Electronic Systems. Miscellaneous Applications of the Electronic Analog Computer. Analog Computer Components and Computer Control. The Checking of Computer Results. Appendix. Index.

KARPLUS—Analog Simulation

By WALTER J. KARPLUS, University of California, Los Angeles. *Series in Info. Proc. & Comptr.*

434 *pp.*, 6 *x* 9 (1958).....$10.00*r*

This is the only book completely devoted to solution of field problems by analog technique. The book begins with a general discussion of analogs. The first part deals with mathematical models and those principles which are of immediate and direct interest in solving partial differential equations by electric analogs. The second part is a comprehensive study of the various methods of simulating field problems by analogs. Part three illustrates the application of the mathematical techniques of part one and the utilization of the analogy systems of part two to the solution of typical engineering problems.

CONTENTS—Preface. Introduction. THE MATHEMATICAL MODEL. Formulation of the Partial Differential Equations Characterizing Field Problems. Transformations. Finite-difference Approximations. ANALOG-SIMULATION SYSTEMS. Conductive-solid Analogs. Conductive Liquids —The Electrolytic Tank. Resistance Networks. Resistance-Reactance Network Analogs. Electric Analog Computers. Non-electric Analog Simulation Systems. ANALOG APPLICATION. LaPlace's, Poisson's, and Other Elliptic Equations. The Diffusion Equation and Other Parabolic Equations. The Wave Equation and Other Hyperbolic Equations. The Biharmonic Equations. Bibliography. INDEX.

KARPLUS AND SOROKA—Analog Methods Computation and Simulation

By WALTER J. KARPLUS, University of California, Los Angeles; and WALTER J. SOROKA, University of California, Berkeley. *Series in Engg. Sc.* Second Edition.

496 *pp.*, 6 *x* 9, 365 *illus.* (1959)....$12.50*c*

A comprehensive survey of all the analog methods and techniques in use today, this book provides a basic introduction to the general area of analog computation and helps the student understand the capabilities and limitations of analog techniques in the solution of problems. It gives the reader a broad and complete insight into the nature and operation of linear and nonlinear elements before discussing the interconnection of those elements to solve equations. The reader learns to utilize computer elements in both special-purpose and general-purpose designs *before* he begins to solve laboratory problems.

CONTENTS—Preface. Introduction. INDIRECT COMPUTING ELEMENTS. Linear Electrical Computing Elements. Electrical Multipliers and Dividers. Electrical Function Generators. Mechanical Computing Elements. INDIRECT COMPUTERS. Differential Analyzers. Machines for Simultaneous Linear Algebraic Equations. Analog Solution of Nonlinear Algebraic Equations. DIRECT COMPUTERS (SIMULATORS). Dynamical Analogies. Finite-difference Networks. Continuous Field Analogs. Appendix 1. Tables of Transfer Functions. 2. Problems. 3. Laboratory Experiments. Index.

KORN AND KORN—Electronic Analog Computers

By GRANINO A. KORN, National University of Mexico, and T. M. KORN, Second Edition.

468 *pp.*, 6 *x* 9, 295 *illus.* (1956)....$8.50*iL*

A practical and comprehensive treatment of d-c analog computers, used as differential analyzers, equation solvers, simulators, and control system components. The book shows how to set up problems for analog computation and examples are given of practical application, including setup procedure, in typical problems of applied mathematics and engineering design. It also shows how to design analog computers, covering circuit theory, components, and complete systems.

CONTENTS—Introduction to D-C Analog Computers. Practical Setup Procedure. The Application of D-C Analog Computers to Representative Practical Problems. Theory and Design of Linear Computing Elements: Operational Amplifiers and Networks. D-C Amplifiers for Computer Applications. Multiplication and Function Generation. Auxiliary Circuits and Computer Operation. The Design of Complete D-C Analog Computer Installations. Appendix. Some Properties of Parallel-feedback-type Operational Amplifiers.

LEDLEY—Digital Computer and Control Engineering

By ROBERT S. LEDLEY, National Biomedical Research Foundation and The Johns Hopkins University. *Series in Elec. & Electron. Engg.*

835 *pp.*, 6 *x* 9, 420 *illus.* (1960)....$14.50*c*

This book, a pioneer in the field of digital computers and digital controls, is a comprehensive elementary engineering textbook intended for senior undergraduate or first-year graduate courses. The unified treatment covers almost all aspects of the field from a detailed engineering point of view. The subjects covered were chosen to present a continuous, natural development of the major areas of digital computers and controls. There are five parts to the book, each containing a unique approach to its particular subject matter.

CONTENTS—Foreword. Preface. INTRODUCTION TO DIGITAL PROGRAMMED SYSTEMS. Applications of Digital Computers and Control. Principles and Block Diagram of a Digital Computer. Coding and Programming a Digital Computer. Programming Fundamentals. Advanced Programming. FUNCTIONAL APPROACH TO SYSTEMS DESIGN. Fundamentals of Numerical Analysis. Searching, Sorting, Ordering, and Codifying. Special-purpose Digital-computer Systems Design. Systems Design of the Pedagac. FOUNDATIONS FOR THE LOGICAL DESIGN OF DIGITAL CIRCUITRY. Introduction to Boolean Algebra and Digital-computer Circuits. The Designation Numbers and the Design of Function Circuits. Elementary Computational Methods in Circuit Design. Boolean Matrix Equations and the Fundamental Formulas. Applications of Matrix Equations in Circuit Design. LOGICAL DESIGN OF DIGITAL-COMPUTER CIRCUITRY. Serial Arithmetic Operations. Parallel and Rapid Arithmetic Operations. Control. Packaging and the Logical Design of the Pedagac. ELECTRONIC DESIGN OF DIGITAL CIRCUITS. Problems and Limitations in Electronic Realization. Semiconductor Elements in Digital-circuit Design. Magnetic Elements in Digital-circuit Design. Memory and Input-Output Methods. The Electronic Design of the Pedagac. APPENDIXES.

LEDLEY—Programming and Utilizing Digital Computers

By ROBERT S. LEDLEY, National Biomedical Research Foundation and The Johns Hopkins University. *Series in Info. Proc. & Comptr.*

589 *pp.*, 6 *x* 9, 201 *illus.* (1962)....$12.50*c*

This textbook for undergraduate and graduate courses discusses programming on both scientific and business levels. It covers machine language programming; the three-, two-, and one-address instruction systems; automatic programming languages, with chapters on ALGOL and COBOL; and methods for utilizing computers, designed as a source for programming problems. Concrete examples illustrate all discussions. Approximately 500 exercises follow each chapter.

CONTENTS—PART I. MACHINE LANGUAGES: Application and Description of a Digital Computer, Principles of Programming. Instruction Formats and Operation Types. Programming for Special-purpose Digital Computers. PART II. AUTOMATIC PROGRAMMING LANGUAGES: Development of Automatic Programming. Algebraic Oriented Languages: ALGOL. Business Oriented Data Processing Languages: COBOL. Programming to Achieve Intelligence. PART III. DATA PROCESSING TECHNIQUES: Fundamentals of Numerical Analysis. Boolean Algebra. Searching, Sorting, Ordering, and Codifying. Appendix. Name Index. Subject Index.

LEEDS AND WEINBERG—Computer Programming Fundamentals

By HERBERT D. LEEDS, IBM and GERALD M. WEINBERG, IBM.

368 *pp.*, 6 *x* 9, 115 *illus.* (1961)....$8.50*t*†

This textbook on digital computers introduces students with little or no formal training or technical background, to the fundamental principles of computer programming. It seeks to give a complete understanding of the subject, and to instill proper programming and computer habits. Designed to train the reader in basic computer programming and the principles of automatic data processing systems, as well as in specific computers—in particular 7090 programming, representative of the latest family of computers, the text can readily be adapted for programming courses using any other computers.

CONTENTS—Preface. What Is a Computer? How Is the Computer Used? Flow Diagramming. Control Instructions. Introduction to Input-Output. Indexing. Subroutines. Types of Subroutines. Arithmetic. Program Testing. Production.

LEVINE—Methods for Solving Engineering Problems

Using Analog Computers

By LEON LEVINE, Hughes Aircraft Company. *Series in Info. Proc. & Comptr.*

In Press

For a graduate course on analog computers, emphasizing problem solving, the text is concerned with the mathematical techniques involved in computation. More than half the material is not contained in any other analog computer textbook. Self-contained, it provides the beginner with the essentials of programming problems in the first four chapters. Following chapters cover the generation of explicit functions and implicit functions, error reduction techniques, optimization techniques, estimation and testing of hypotheses, experimental design and detection of errors, and the application of statistics to computer operations. The discussions of differential equations and statistical methods are unique in books on this subject.

McCORMICK—Digital Computer Primer

By E. M. MCCORMICK, National Science Foundation, Washington, D.C. and American University. *Series in Info. Proc. & Cmptr.*

214 *pp.*, 6 *x* 9, 69 *illus.* (1959).....$7.50*i*

Gives a simple basic explanation of digital computers—what they are, how they work, and how they are used—primarily for readers with little mathematical or electronics knowledge. Following introductory material on the basic unit, essential characteristics, terminology, and sequence of operations of computers, the book covers in detail coding; number systems; logic of computers; and control, arithmetic, storage, and input-output units. Instructions, programming, and methods of checking accuracy and precision also are discussed.

CONTENTS—Introduction. Organization of Computers. Elementary Coding. Number Systems. Logic of Computers. Control Units. Arithmetic Units. Storage. Input—Output. Instructions. Accuracy, Precision, Checking. Programming and Coding.

OAKFORD—Introduction to Electronic Data Processing Equipment

By ROBERT V. OAKFORD, Stanford University. *Series in Info. Proc. & Cmptr.*

352 *pp.*, 6 *x* 9, 83 *illus.* (1962).....$10.00*c*

This introductory text is designed for students who are interested in data processing and want to learn how to communicate with electronic computers and auxiliary punched card equipment. The book deals with existing rather than hypothetical equipment and languages and treats in detail with a set of existing equipments and languages. The presentation helps the student gain an understanding of the principles of the operation of such equipments so that he is able to make judgments about the application of specific equipment to data processing problems. No prerequisite other than a working of algebra is needed.

† *Textbook edition available at educational list price.*

ROGERS AND CONNOLLY—Analog Computation in Engineering Design

By A. E. ROGERS, Electronic Associates, Inc., and T. W. CONNOLLY, Sperry Gyroscope Co. *Series in Info. Proc. & Cmptr.*

450 *pp.*, 6 *x* 9, 275 *illus.* (1960) $16.00*i*

Practical guidance for engineers and others concerned with systems analysis and design on using and expertly applying analog computers to solve engineering design problems. Shows the principles, capabilities, and limitations of modern computers; computer methods for solving problems in engineering mathematics; and a detailed procedure for preparing problems for the computer. Included are specific examples of computer applications to chemical processes and process control, feedback-control systems, mechanical and electrical design, nuclear reactors, and many other engineering areas.

CONTENTS—General-purpose Analog Computing Equipment. Elements of Linear Analysis. Consideration of Nonlinearities. Partial Differential Equations. Solution of Algebraic Equations and Related Problems. Random Signals and Their Use in Analog Computing. Adjoint Computing Technique. Solution of Specialized Mathematical Problems. Problem Preparation Procedure. Application of Analog Computers to the Study of Feedback Controls. Chemical Processes and Process Control. Problems in Nuclear-reactor Engineering. Application of the Analog Computer to the Study of Problems from the Aircraft Industry. Application of the Analog Computer to the Study of Mechanical Design Problems. Application of the Analog Computer to the Study of Electrical Design Problems. APPENDIX—Factors in Planning and Operating an Analog Laboratory. Accuracy of Solution. Coordinate Transformation. Transport Delays. Selected Computer Techniques.

SCOTT—Analog and Digital Computer Technology

By NORMAN R. SCOTT, Professor of Electrical Engineering, University of Michigan. *Series in Info. Proc. & Cmptr.*

522 *pp.*, 6 *x* 9, *illus.* (1960) $12.75*c*

This book, a first in its field, presents information about both the use and the design of the two principal types of electronic computers—the electronic differential analyzer and the stored-program digital computer. The material stresses the aspects of computer technology which are most fundamental and of greatest importance for several years to come. Included is important information on transistor NOR logic, magnetic core storage systems, and Quine's reduction algorithm for switching circuits, all of which have come to be of importance within the past years.

CONTENTS—Some Introductory Comments. Solution of Problems on Electronic Differential Analyzers. Computer Representation on Nonlinear Functions. Computing Amplifiers. Introduction to the Digital Computer. Solving Problems on the Digital Computer. Number Systems and Codes. Mathematical Logic and Switching Networks. Logic Circuits for Arithmetic and Control. Electronic Circuits for Logic. Storage in the Digital Computer. Appendix: Congruences.

SMITH—Electronic Digital Computers

By CHARLES V. L. SMITH, Goddard Space Flight Center.

443 *pp.*, 6 *x* 9, 201 *illus.* (1959) $14.00*i*

Presents a comprehensive account of what electronics digital computers are and how they function. From the treatment of the basic logical and arithmetic notions to the discussion of the circuits and devices by which the basic functions are physically realized, and the description of the major units of a representative machine—everything important to the form and function of electronic digital computers is taken up in this book.

CONTENTS—Preface. Digital-Computer Arithmetic. Instruction Codes. Some General Considerations on Systems. Basic Logic Circuits and Their Representation. Static Memory Cells. Dynamic Memory Cells. Higher-order Logic Circuits. Shifting Registers. Counters. Adders and Accumulators. Large-Scale Memory Devices, I. Large-Scale Memory Devices, II. The Arithmetic Unit. The Memory. The Central Control. Input and Output. Super-Speed Computers. Index.

SMITH AND WOOD—Principles of Analog Computation

By GEORGE W. SMITH, and ROGER C. WOOD, both Ryan Aeronautical Company.

234 *pp.*, 6 *x* 9 (1959) $8.50*c*

This book presents those methods of analog computing which form the fundamental tools for the analyst working in the field. The authors teach the reader how to use the analog computer as a working tool and include a detailed discussion of the philosophy and techniques of analog computation. The book gives detailed information on circuitry, considering a number of pertinent examples, and introduces several new techniques involving diodes. Primary emphasis is given to the type of problems which can be solved.

CONTENTS—Preface. Major Components of the Analog Computer. Problem Planning and Programming. Simulation of Linear Systems. The Use of Diodes in Analog Computations. Function Relays. Implicit-function Techniques. Arbitrary-function Generators. General Theory of Operation of Computer Components. Index.

STIBITZ AND LARRIVEE—Mathematics and Computers

By GEORGE R. STIBITZ, Consultant in Applied Mathematics, and JULES A. LARRIVEE, Lockheed Aircraft Corp.

277 *pp.*, 6 *x* 9, 48 *illus.* (1956)

Cloth Edition $6.50*i*
*McG-H Paperbacks Ed.**

Surveys the work of the applied mathematician, the problems he studies, the methods he uses, especially computational methods, and the computing devices that help him in the application of mathematics to problems in science, engineering, and business. Computing devices and their components are described, especially the automatic digital computer, the way it works, and its capabilities and limitations, also the non-digital computing devices, use of randomness in computation, and typical applications of computing devices in technology and business.

* *Available only through your local bookstore.*

SVOBODA—Computing Mechanisms and Linkages

By ANTONIN SVOBODA, HUBERT M. JAMES, Editor. Volume 27—*MIT Rad. Lab. Series.*

352 *pp.*, 6 *x* 9, 177 *illus.* (1948) $8.50*r*

CONTENTS—Computing Mechanisms and Linkages: Introduction. Elementary Computing Mechanisms. Bar-linkage Computers. Basic Concepts and Terminology. Harmonic Transformer Linkages. The Harmonic Transformer. Harmonic Transformers in Series. The Three-bar Linkage: The Nomographic Method. The Geometric Method for Three-bar Linkage Design. Linkage Combinations with One Degree of Freedom: Combination of Two Harmonic Transformers with a Three-bar Linkage. Three-bar Linkages in Series. Final Adjustment of Linkage Constants. Linkages with Two Degrees of Freedom. Bar-linkage Multipliers. Bar-linkage Function Generators with Two Degrees of Freedom. Appendix A: Tables of Harmonic Transformer Functions. Appendix B: Properties of the Three-bar-linkage Nomogram.

TAUBE—Computers and Common Sense

By MORTIMER TAUBE, Columbia University.

136 *pp.*, 5⅝ *x* 8 (Columbia Univ. Press, 1961; McG-H Paperbacks Ed., 1963)

$1.65*pb*

A critical review of the facts and fallacies about computers, an analysis of the literature in the field, and a close and careful look at the myths which have arisen concerning the "thinking machines." As a scientifically oriented critic of science, Dr. Taube sets the facts straight in a clear and even style.

WILLIAMS—Digital Computing Systems

By SAMUEL B. WILLIAMS, Department of Defense. *Series in Info. Proc. & Cmptr.*

231 *pp.*, 6 *x* 9, 168 *illus.* (1959).....$8.75*i*

A broad technical introduction to digital computing systems that covers everything from coding and components to computer applications. Describes the various elements contained in modern computers, explaining the underlying principles of the devices used and illustrating the devices themselves. Circuitry by which the elements are made to perform desired functions is clearly treated, with many examples of typical circuits. Logical design and programming are discussed in realistic terms. Included is a brief picture of how digital computers can be used to help solve scientific, business, and data handling problems. Requires no knowledge of mathematics.

CONTENTS—Introduction. Numbers, Letters, and Codes. Input Devices Output Devices. Storage Devices. Circuits and Components. Arithmetic Units. Engineering Design. Programming. Applications.

WRUBEL—A Primer of Programming for Digital Computers

By MARSHAL H. WRUBEL, Indiana University. *Series in Info. Proc. & Cmptr.*

230 *pp.*, 6 *x* 9 (1959).....$7.95*c*

Written for scientists, engineers, and their students who are planning to use electronic computers as tools of research. This book explains what sort of problems electronic computers can solve and how one goes about using them. Throughout the book the author regards the electronic calculator as a means to an end, rather than as an end in itself. The book is divided into two sections: elementary programming and advanced programming.

WOOLDRIDGE—The Machinery of the Brain

By DEAN E. WOOLDRIDGE, California Institute of Technology.

252 *pp.*, 5 5/16 *x* 8, *illus.* (1963).....$5.95*t*
*McG-H Paperbacks Ed.**

The current state of knowledge of the working of the brain and nervous system in man and other animals is discussed in this book. The treatment is entirely nonmathematical; the style is simple and clear. The book includes descriptions of much that is important, interesting, and exciting in the fast-moving field of brain research. It calls attention to the similarities between electronic computers and the brain, where they seem to exist. At the same time, it makes a serious effort to preserve a biological stress in the material covered, rather than to show the greatest possible parallelism between the brain and computers.

CONTENTS—The Electrical Properties of Nerves. The "Schematic Diagrams" of the Nervous System. Peripheral Data Processing in the Nervous System. Automatic Control Circuits in the Nervous System. Permanently Wired-in Behavior Patterns of Lower Animals. Electrical Nature of Conscious Mental Processes: Brain Waves and Epilepsy. Control Centers of Emotion and Consciousness. Personality and Speech. Memory. Automatic Learning. Higher Learning. Computers and the Brain. *Index.*

* *Available only through your local bookstore.*

Switching Circuits

HUMPHREY—Switching Circuits
With Computer Applications

By WATTS S. HUMPHREY, JR., Sylvania Electric Products, Inc. and Northeastern University. *Series in Info. Proc. & Cmptr.*

264 *pp.*, 6 *x* 9, 179 *illus.* (1958).....$8.90*r*

Intended both as a graduate engineering test and as an aid to the practicing design engineer, this book presents today's most important techniques and describes some newer methods which are becoming increasingly useful. The material is presented with sufficient examples so the student can gain practical experience and the working engineer can learn through self study.

CONTENTS—Introduction. Boolean Algebra. Relay Contact Networks. Codes. Minimizing Aids. Circuit Logic. Boolean Matrices. Bilateral Networks. Cascaded Networks. Sequential Circuits. Bibliography. Index.

McCLUSKEY AND BARTEE—A Survey of Switching Circuit Theory

Edited by E. J. MCCLUSKEY, JR., Princeton University, and T. C. BARTEE, Massachusetts Institute of Technology.

224 *pp.*, 6 *x* 9, 60 *illus.* (1962).....$7.75*c*

This collection of edited tutorial papers on combinational and sequential switching theory was presented at the AIEE Fall and Winter meetings of 1960. The text provides a broad survey of the field of switching circuit theory and logical design theory for persons unfamiliar with this area of electrical engineering; its problems and techniques used in solving them. It requires only limited knowledge of mathematics and electrical engineering.

CONTENTS—COMBINATIONAL SWITCHING CIRCUITS. Introduction to Switching Algebra, *Norman R. Scott.* Binary Numbers, Codes, and Translators, *W. J. Caldwell.* Formulation of Switching Problems, *J. P. Runyon.* The Map Method, *E. J. Tanana.* Minimization Theory, *E. J. McCluskey, Jr.* Design Using Computers, *T. C. Bartee.* SEQUENTIAL SWITCHING CIRCUITS. Introduction to State Tables, *E. J. McCluskey, Jr.* Derivation of Completely and Partially Specified State Tables, *J. P. Runyon.* Simplification of State Tables, *S. H. Unger.* Circuit Synthesis from State Tables, *M. Phister, Jr.* Mathematical Structure of Sequential Machines, *I. S. Reed.*

Practical Electricity and Electronics

McGRAW-HILL TV, RADIO AND AUDIO SERVICING COURSE $39.95r

Markus—Television and Radio Repairing
Ecklund—Repairing Home Audio Systems
Anthony—Profitable Television Troubleshooting
Marcus and Levy—Practical Radio Servicing
Markus—How to Make More Money in Your TV Servicing Business

Handbook

CROFT—American Electrician's Handbook
A Reference Book for Practical Electrical Workers

By TERRELL CROFT. Revised by CLIFFORD C. CARR, deceased. Eighth Edition.
1724 *pp.*, 6 *x* 9, 1620 *illus.* (1961) . $18.50*hbt*†

A comprehensive and highly practical reference that treats the design, installation, operation, and maintenance of electrical installations and equipment. Revised edition presents modern methods, facts, and data on the use of electrical wires and cables, switching equipment, electrical protective devices, wiring material and devices, capacitors, batteries, rectifiers, transformers, generators, motors, electric lamps, and illumination equipment. Completely in accordance with the National Electrical Code, the book covers approved practices in the distribution of electrical energy for both interior and for exterior uses.

Electricity Principles

ADAMS—Electrical Principles and Practices
By JAMES ADAMS, School of Industrial Electricity, Madisonville, Kentucky.
616 *pp.*, 6 *x* 9, 498 *illus.* (1963) . . . . $9.95*rt*†

A complete practical course in industrial electricity written for the average technical-vocational student, apprentice, or on-the-job trainee. After a thorough introduction to the basic principles of electricity, magnetism, and electromagnetic induction, the text covers the areas of installation, maintenance, rewinding, and repair of electrical equipment commonly used in industrial and commercial situations. Fundamental to several electrical trades, armature rewinding, motor rewinding, electrical controls, house and power wiring, and troubleshooting are covered sufficiently for apprenticeship and up-grading training of electricians. The text also includes related subjects of vital importance to the practicing electrician, among them: electrical conductors; electrical drafting, symbols, and blueprint reading; standard terminal markings for single and three-phase motors, generators, and transformers (including standard charts); a-c and d-c charts showing connections for voltages and rotations.

CONTENTS—Preface. Introduction. What Is Electricity? Volts, Amperes, Ohms, and Watts. Electrical Conductors. Electrical Circuits. Electrical Drafting. House Wiring. Magnetism and Electromagnetism. Direct Current Motors. Armature Winding. Commutators and Brushes. Direct Current Motor Controls. Direct Current Generators. Alternating Current and Induction. Single Phase Motors. Three-Phase Motors. Alternating Current Motor Controls. Transformers. Making and Testing Electrical Coils. Power Wiring. Electrical Meters and Testing. Bearings and Lubrication. List of Tables.

CROFT—Practical Electricity
By TERRELL CROFT. Revised by GEORGE H. HALL. Fourth Edition.
674 *pp.*, 5⅛ *x* 8, 588 *illus.* (1940) . . $8.50*rt*†

Shows what electricity is, how it is generated, and how it is used. The book is written in simple language, with graphic examples, and without the use of higher mathematics.

DAWES—Industrial Electricity—Volume I. Direct Currents
By CHESTER L. DAWES, formerly Harvard University. Third Edition.
430 *pp.*, 6 *x* 9, *illus.* (1956) $6.00*v*

Presents theories based on simple electric and magnetic principles, and the application of these theories to industrial situations. The book begins with Ohm's law applied to simple electric circuits and develops progressively to the analysis of the more complex electric circuits; electric energy and power; primary and secondary batteries; dynamo windings and construction; and operation and applications of d-c generators and motors. A beginner in the field should have no difficulty in acquiring a good working knowledge of direct-current electrical engineering. The illustrative problems, chapter summaries, questions, and problems make the text easily adaptable for self-study.

CONTENTS—Electricity and the Electric Circuit. Battery Electromotive Force; Kirchhoff's Laws. Resistance. Primary and Secondary Batteries. Electrical Instruments and Electrical Measurements. Magnetism and Permanent Magnets. Electromagnetism. The Magnetic Circuit. Electrostatics. Capacitance. The Generator. Generator Characteristics. The Motor. Losses; Efficiency; Operation. Appendixes. Questions and Problems. Visual Aids. Index.

DAWES—Industrial Electricity—Volume II
By CHESTER L. DAWES, Harvard University. Third Edition.
573 *pp.*, 6 *x* 9, 450 *illus.* (1960) $7.50*v*

The object of this book is to develop in a simple manner the principles of alternating currents and alternating-current circuits and to show their applications to such electrical apparatus as machinery, rectifiers, electron tubes, transistors and radio, and also to power transmission. The text begins with such basic principles as sine waves, simple generation of alternating emfs and currents, their representation by phasors, and alternating current circuits, both single-phase and polyphase. With these as background, the characteristics and operation of apparatus in the many fields of alternating currents are then developed.

CONTENTS—Alternating Current and Voltage. Single-phase A-C Circuits. Polyphase Systems. A-C Instruments and Measurements. The Synchronous Generator. Characteristics and Operation of Synchronous Generators. The Transformer. The Polyphase Induction Motor. Single-phase Motors. Synchronous Motors and Converters. Transmission and Distribution of Electrical Power. Electronics and Electronic Devices. Rectifiers. Appendixes. Questions and Problems. Index.

LISTER—Electric Circuits and Machines
An Introduction to Practical Electricity
By EUGENE C. LISTER, Stanley Engineering Company. Third Edition.
397 *pp.*, 6 *x* 9, 266 *illus.* (1960) $5.50*v*

This up-dated revision provides a concise presentation of both direct and alternating current circuits and machinery for courses for technicians and electricians as well as for survey courses for non-electrical engineering students. Emphasis is on the basic principles of electricity without detailed mathematics analyses. All major types of electrical machinery are covered. Most of the mathematics is limited to simple algebra.

† *Textbook edition available at educational list price.*

CONTENTS—Preface to the Third Edition. Fundamental Units. Direct-current Circuits. Primary and Secondary Batteries. Magnetism. Electromagnetic Induction. Direct-current Generators. Direct-current Motors and Controls. Alternating Current. Single-phase Circuits. Three-phase Circuits. Transformers and Regulators. Alternating-current Generators. Polyphase Induction Motors. Synchronous Motors and Self-synchronous Apparatus. Single-phase Motors. Circuit Protective and Switching Equipment. Electrical Instruments and Electrical Measurements. Electron Tubes and Devices. Appendix. References. Motion Pictures and Filmstrips. Index.

SISKIND—Electricity

Direct and Alternating Current

By CHARLES S. SISKIND, Purdue University. Second Edition.

538 *pp.*, 6 *x* 9, 236 *illus.* (1955)....$6.50*v*

Presents the general elementary principles of direct- and alternating-current electricity; shows how these principles apply to the construction and operating characteristics of the more common types of circuits, devices, and machines; and illustrates how these principles may be verified by the performance of simple experiments with easily obtainable and readily constructed apparatus.

CONTENTS—Electricity—Basic Ideas and Effects. Wires and Cables and Their Electrical Properties. Direct-Current Circuits I—Ohm's Law—Power—Energy. Direct-current Circuits II—Kirchhoff's Laws—Basic Theorems. Alternating-Current Electric Circuits and Measurements. Magnetism and Electromagnetism. Direct-current Measuring Instruments. Electromagnetic Induction, Transformer Action, and Transformers. Generators—Direct and Alternating Current. Motors—Direct and Alternating Current. List of Visual Aids. Appendix—Brief Histories of Great Men in Electrical Science and Important Electrical Developments.

SLURZBERG AND OSTERHELD—Essentials of Electricity for Radio and Television

By MORRIS SLURZBERG, Henry Snyder High School, Jersey City, New Jersey, and WILLIAM OSTERHELD, William Dickinson High School, Jersey City, New Jersey.

650 *pp.*, 6 *x* 9, *illus.* (1950).....$8.25*t*†

This book provides the necessary background of electronic principles for an understanding of television, frequency modulation, and radio circuits. Electrical principles are explained in terms of electron flow.

CONTENTS—Preface. Communication. Basic Theory of Electricity. Batteries. Electric Circuits. Magnetism. Meters. Electrical Power Apparatus. Inductance. Capacitance. Alternating-current Circuits. Resonance. Basic Electronic Circuits. Appendix. Index.

SUFFERN—Basic Electrical and Electronic Principles

By MAURICE GRAYLE SUFFERN. Third Edition.

608 *pp.*, 6 *x* 9, 590 *illus.* (1962).....$6.75*v*

The Third Edition offers a thorough revision of this textbook for a first course in electricity. It presents the basic facts of electrical and electronic theory as simply as possible. It requires only a knowledge of simple mathematics; in fact, nothing more than arithmetic and the manipulation of simple formulas. Its aim is to prepare the student for further study in more specialized fields. The treatment throughout is practical, presenting and illustrating many applications to demonstrate the theory discussed. The new edition offers 106 photographs and 498 line drawings, half of them new, that make the material more interesting and understandable. It includes two new chapters on the vacuum tube and transistors. Other chapters deal with batteries, circuits, magnetism, alternating current, inductance, capacitance, generators, and motors.

CONTENTS—Introduction to Electricity. Batteries. The Electric Circuit. Electromagnetism. Alternating Current. Inductance. Capacitance. Effects of Inductance and Capacitance. The Electric Generator. The Electric Motor. Distribution and Rectification of Alternating Current. The Vacuum Tube. Transistors. The Electric Meter and Test Equipment. Appendix 1. Square Root. 2. Summary of Formulas. 3. Resistor Color Coding and Identification. 4. Capacitor Color Coding and Identification. 5. Power Transformer Color Code. 6. Wire Gage. 7. Graphic Symbols. 8. Quiz Answers.

HUBERT—Preventive Maintenance of Electrical Equipment

Trouble Shooting, Emergency Repairs, Operating Techniques

By CHARLES I. HUBERT, United States Merchant Marine Academy.

214 *pp.*, 6 *x* 9, *illus.* (1955).....$4.75*t*

Covers methods for preventive maintenance of electric apparatus, logical methods by which the more common troubles may be identified and localized, and recommends emergency repairs that will keep the equipment in operation until it can be scheduled out of service.

CONTENTS—PREVENTIVE MAINTENANCE. Insulation. Commutators—Slip Rings—Brushes. Brush Neutral. Transformers. Overload. Fuse Protection of Circuits and Machines. Controllers. Disassembly of Machines, Bearings. Industrial Electronic Apparatus. Fluorescent Lights. Storage Batteries. Fire Fighting. Name-plate Data. Spare Parts. TROUBLE SHOOTING AND EMERGENCY REPAIRS. Operational Difficulties. Field Troubles. Armature Troubles (Direct-current). Three-phase Stator Troubles. Squirrel-cage-rotor Troubles. Wound-rotor Troubles. Single-phase Induction-motor Troubles. Rebanding Rotating Apparatus. Motor-controller Troubles. Capacitors. Instruments and Tools for Electrical Maintenance and Trouble Shooting. OPERATING TECHNIQUES. Parallel Operation of Alternators. Parallel Operation of Direct-current Generators. Operation of Electric Motors and Controllers. Operation of Transformers. QUESTIONS AND PROBLEMS. IDENTIFICATION OF ELECTRICAL APPARATUS.

VEINOTT—Theory and Design of Small Induction Motors

By CYRIL G. VEINOTT, Reliance Electric and Engineering Company.

492 *pp.*, 6 *x* 9, 202 *illus.* (1959).....$15.00*i*

Provides thorough coverage of the engineering, application, and design procedures that must be taken into account when working with small induction motors. Describes principles and practice in simple, non-mathematical terms; gives performance calculation methods for single-phase and polyphase motors; covers methods and formulas for analyzing a given design; and shows how to design a machine to meet specified objectives. Extensive treatment is given to the automatic digital computer and its impact upon design methods for rotating machinery. Mathematics is used only as needed to explain methods and to develop working formulas for the use of engineers.

CONTENTS—ENGINEERING PRINCIPLES AND CHARACTERISTICS. Elementary Principles of the Induction Motor. Split-phase Induction Motors. Capacitor-start Motors. Two-value and Permanent-split Capacitor Motors. Shaded-pole Motors. Repulsion-type Motors. Polyphase Induction Motors. THEORY AND PERFORMANCE CALCULATION METHODS. The Cross-field Theory of Single-phase Induction Motors. Performance Calculations for Polyphase Induction Motors. The Revolving-field Theory of the Single-phase Induction Motor. Circle Diagrams for Polyphase and Single-phase Induction Motors. Combined-winding Performance Calculations for Single-phase Induction Motors. Computers in Rotating Machinery Design. EVALUATION OF THE BASIC MOTOR CONSTANTS. Air-gap MMF Waves Set Up by a Single-phase Winding. Air-gap MMF Waves Set Up by a Polyphase Winding. Magnetic Circuit and Saturation Factor. Calculation of Leakage Reactance. Primary and Secondary Losses, Iron Losses, Friction and Windage. Experimental Determination of Induction-motor Constants and Losses. PRACTICAL DESIGN PROCEDURES. Designing the Stator Core. Designing the Rotor Punching. Designing the Main Winding.

† *Textbook edition available at educational list price.*

Designing a Split-phase Starting Winding. Designing the Auxiliary Winding for a Capacitor-start Motor. Design of Capacitor-run Motors. Using This Book in Routine Design Work.

ELECTRICIAN'S PRACTICAL LIBRARY $29.95*r*

James and Markle—Controllers for Electric Motors
Kuehn—Mathematics for Electricians
Richter—Practical Electric Wiring
Siskind—Electrical Machines—Direct and Alternating Current
Siskind—Electrical Circuits—Direct and Alternating Currents

Wiring, Lines, and Estimating

ABBOTT AND STETKA—National Electrical Code Handbook, 11th Ed.

By FRANK STETKA, National Fire Protection Association.

704 *pp.*, 5⅜ *x* 8, 385 *illus.* (1963) . $12.50*hb*

Combines the text of the 1962 edition of the National Electrical Code with authoritative—and authorized—commentary. All of the provisions, specifications, and data of the Code are included, supplemented by an interpretative discussion in brief, simple language. The Code covers wiring design, methods, and materials; equipment; special occupancies and conditions; and communication systems.

ASHLEY—Electrical Contracting

By RAY ASHLEY, Business and Estimating Consultant—Electrical Construction. Consulting Editor for *Electrical Construction and Maintenance.*

280 *pp.*, 7¼ *x* 9⅞, *illus.* (1961) . . . $10.00*i*

Shows how to conduct electrical contracting on a sound and profitable basis. For the electrical contractor who wants to increase his business by more efficient management and understanding of his field, as well as for the beginner. Topics covered include additional margins of markup, contracts, reduction of labor costs, how to obtain new customers, how to avoid overinsuring jobs, and how to keep work on schedule. Also included is extensive data on overhead cost studies.

CONTENTS—So You Think You Ought to Be an Electrical Contractor? Do You Know How Much It Costs to Get Started in Business? Do You Know How Much It Will Cost You per Month While You Are Waiting for Contracts? Do You Know How Much Business Must Be Forthcoming to Pay Operating Expenses? Do You Know Where You Are Going to Get Contracts for $100,000? Do You Know Where You Are Going to Get the Men? Are You Familiar with the Functions of Contracting? Can You Select the Better Contracts? Can You Make the Most of Contracts? Are You Familiar with Operating Costs? Do You Know How to Conduct Overhead Studies? Can You Estimate Installation-Only Contracts? Can You Write Proposals? What Type of Organization Do You Need? Can You Collect? Can You Conduct Labor-cost Studies? Do You Understand Incidental Costs? Do You Know What It Costs to Train Apprentices? Can You Explain Your Tool Charges? Do You Understand Your Labor Curves? Watch Your Trim Labor. The Wide Bid Spread. Safe Billing. Architects and Engineers. The Estimator. Man-Power Productivity (MPP). Advertising. Continuing in Business.

KURTZ—The Lineman's Handbook

By E. B. KURTZ, State University of Iowa. Third Edition.

772 *pp.*, 5½ *x* 8, 1020 *illus.* (1955) $13.50*hb*†

A practical manual describing in detail all steps in locating, erecting, testing, inspecting, and maintaining electrical distribution and transmission lines.

CONTENTS—Elementary Electrical Principles. The Electric System. Distribution Circuits. Line Materials. Line Equipment. Line Protective Equipment. Line Control Equipment. Fundamentals of Line Design. Locating and Staking Line. Unloading and Framing Poles. Erecting and Setting Poles. Guying Poles. Mounting Crossarms, Pins, and Insulators. Splicing, Stringing, and Sagging Conductors. Installing Transformers and Lightning Arresters. Stringing Secondary Mains. Installing Services. Tower Line Erection. Patrolling and Inspecting Lines. Line Testing. Field Testing of Line Insulators. Live Line Maintenance. Rural Lines. REA Operation and Maintenance Manual. Pole Climbing. Rubber Protective Equipment. Rope Knots, Splices, and Gear. Tree Trimming. Signals for Line Work. Prone Pressure Resuscitation Method. Arm Lift Resuscitation Method. Pole Top Resuscitation. Safety Methods in Construction. Accident Prevention Courses. First Aid Talks. Electrical Formulae and Calculations. Lineman's Arithmetic. Self-testing Questions and Answers. Definition of Electrical Terms.

ASHLEY—Electrical Estimating

By RAY ASHLEY, Electrical Engineering and Estimating Consultant for *Electrical Construction and Maintenance.* Third Edition.

437 *pp.*, 7¼ *x* 9⅞, 254 *illus.* (1961) . $13.50*i*

A practical manual containing all information required to estimate cost of any electrical construction job quickly and accurately. Packed with time-saving methods that streamline your estimating procedures, give you the know-how that means safer, more dependable bids. Covers everything from fast methods of take-off, to checking the final bid; from training men and using proper tools, to fabricating labor costs for special work and quickly establishing job costs and markups.

CONTENTS—THE ELECTRICAL ESTIMATOR AND ESTIMATING REQUIREMENTS. Functions of an Estimate. The Estimator. Surroundings and Furniture. Estimating Tools. Estimating Forms. Evolution of Estimating. Items Affecting Labor Costs. Development of Labor Units. Fundamentals of Estimating Labor. PREPARING ESTIMATES. Essential Preliminary Work. Lighting Branch Wiring. Distribution Equipment and Feeders. Power Branch Wiring and Motor Installation. Special Systems and Auxiliary Sheets. Checking Estimates. Estimating Special Projects. Estimating Residential Wiring. OPERATING COSTS. Direct Job Costs and Overhead. Separate Markups. Analyzing Overhead. Installation-only Projects. Volume Duration. Volume Limits. Extended Duration. Prolonged Duration. SAMPLE ESTIMATES. Interior Work. Exterior Work. PRELIMINARY ESTIMATES. Necessity of Reliable Information. Service and Feeders. Panels and Cabinets. Motor Wiring. Lighting Unit Costs. 1960 Unit Costs. LABOR UNITS. General Discussion of Labor Units. Additional Tables for Study.

BREDAHL—Home Wiring Manual

By A. CARL BREDAHL, formerly Westinghouse Electric Corporation.

216 *pp.*, 5⅜ *x* 8, 101 *illus.* (1957) $5.95*i*

A thorough training and reference manual on the planning of home wiring systems, in line with today's greatly increased use of electricity. Emphasizing methods of analyzing electrical requirements and planning adequate systems, rather than commonly-known installation methods, the book shows how to determine the right number of outlets, the proper number and size of circuits, and the capacity of the electrical service needed to carry the load.

CONTENTS—Electrical Equipment for the Home. Electrical Circuits. Service-entrance Conductors and Equipment. Electric Space Heating. Lighting. Conductors—Voltage Drop—Circuit Protection. Electrical Outlets. Low-voltage Control Wiring. Communication Systems. Specifications for Single-family Dwellings. Installing a Wiring System. Electrification of the Farm. Estimating Electrical Costs. Terms Used in Building Design and Construction. Miscellaneous Charts and Tables.

JOHNSON—Electrical Construction Cost Manual

By RALPH E. JOHNSON, Sturgeon Electric Company.

† *Textbook edition available at educational list price.*

431 *pp.*, 6 *x* 9, *illus.* (1957).....$11.00*i*
Shows how to make estimates of electrical construction work, developed through standard assemblies, unit costs of total material and labor units, and the addition of job factors, overhead, and profit. Details step-by-step procedures for take-off, pricing, and summarizing the estimate. Includes charts, graphs, tables, and drawings relating to information sources, basic labor units, unit costs for assemblies, applying profits, etc.

RICHTER—Practical Electrical Wiring
By HERBERT RICHTER, Electrical Inspector, Minneapolis, Minnesota. Sixth Edition.
585 *pp.*, 5⅛ *x* 8, 473 *illus.* (1960)..$8.50*rt*
Specifically an instruction manual rather than a reference book, this text is intended for either independent study or as material for classwork, and presupposes no previous knowledge of the subject. It enables the reader to learn electrical wiring in practical fashion, for homes and farms, as well as industrial and commercial structures, schools, churches and all in strict accordance with the National Electrical Code. It gives logical step-by-step procedure, from principle to method to execution and requires no mathematics except ordinary arithmetic.
CONTENTS—Preface. Theory and Basic Principles: Underwriters and Codes. Electricity: Basic Principles and Measurements. AC and DC; Power Factor; Transformers. Basic Devices and Circuits. Overcurrent Devices. Types and Sizes of Wires. Selection of Proper Wire Sizes. Wire Connections and Joints. Theory of Grounding. Outlet and Switch Boxes. Different Wiring Methods. Branch Circuits and Service Entrance. Adequate Wiring. Good Lighting. Residential and Farm Motors. Actual Wiring: Residential and Farm: Planning and Installation. Installation of Service Entrance and Ground. Installation of Specific Outlets. Finishing: Installation of Switches and Other Devices. Miscellaneous Wiring. Wiring Large Appliances. Old Work. Modernizing. Additional Types of Wire. Farm Wiring. Isolated and Standby Power Plants. Wiring Apartment Houses. Actual Wiring: Nonresidential Projects. Planning Nonresidential Installations. Miscellaneous Problems in Nonresidential Wiring. Nonresidential Lighting. Wiring for Motors. Wiring Schools and Churches. Wiring Offices. Wiring Stores. Wiring Miscellaneous Occupancies. Bibliography. Appendix. Examples Code Tables. Index.

Appliance Servicing

BROCKWELL—Small Appliance Servicing
By P. T. BROCKWELL, JR.
180 *pp.*, 5½ *x* 8, 55 *illus.* (1957)...$5.50*tL*
*McG-H Paperbacks Ed.**
Gives you professional small appliance servicing techniques and ethical business procedures. Contains complete, well-illustrated instructions on how to test equipment, how to repair cord sets, irons, toasters, mixers, roasters, coffee makers and percolators, waffle irons and sandwich grills, and rotisseries. Also explains how to set up shop and how to make it pay.
* *McG-H Paperback Ed. available under the title of* HOW TO REPAIR HOUSEHOLD APPLIANCES. *Available only through your local bookstore.*

BROCKWELL—Major-Appliance Servicing
By P. T. BROCKWELL, JR.
265 *pp.*, 5⅜ *x* 8, 51 *illus.* (1958)....$6.50*tL*
Gives essential, over-all information for a career in major-appliance servicing, explaining methods of repairing appliances and showing how to organize and manage a servicing business. Washers, ironers, vacuum cleaners, dish washers, disposers, dryers, ranges, water heaters, refrigerators, freezers, and room air conditioners are covered, with attention to both mechanical and electrical work, and emphasis on safety precautions in handling 230-volt appliances. Full treatment includes such information as the use of testing devices, a test for selecting applicants for serviceman jobs, and methods of reconditioning appliances for resale.
CONTENTS—PART 1. THE 115-VOLT ELECTROMECHANICAL APPLIANCES. Mechanical Work in General. Testing Devices. Conventional Washers. Automatic Washers. Rotary Ironers. Vacuum Cleaners. Dishwashers. Disposers. PART 2. THE 230-VOLT WIRED-IN APPLIANCES. Safety First! Electric Dryers. Electric Ranges. Electric Water Heaters. PART 3. DOMESTIC REFRIGERATION. Refrigerators and Freezers. Room Air Conditioners. PART 4. RECONDITIONING APPLIANCES FOR RESALE. Repairing Appliances for Resale. Repairing the Finish of Appliances. PART 5. THE BUSINESS END OF APPLIANCE SERVICING. How to Set Up Shop. Screening Test. How to Make It Pay.

APPLIANCE SERVICING LIBRARY $12.00*r*
Brockwell—Small-Appliance Servicing
Brockwell—Major-Appliance Servicing

ECKLUND—Repairing Home Audio Systems
By EUGENE ECKLUND, Allen B. DuMont Laboratories, Inc.
320 *pp.*, 6 *x* 9, 254 *illus.* (1962).....$6.95*t*
A practical manual on repair of home audio equipment and of mechanical elements of record changers and magnetic tape recorders. Step by step it shows you how to troubleshoot, repair, and test amplifiers, preamplifiers, a-m and f-m tuners, record changers and turntables, tape decks, speakers and speaker systems—both stereo and mono. Everything is explained from basic electronics to complete music systems—how equipment works, and the easy, practical way to service it. Scores of diagrams, "three-dimension" drawings, and sketches make plain all the equipment handled in everyday service work. In addition, there are handy troubleshooting charts that list familiar symptoms, possible causes, and practical solutions. Also includes pointers on how to start your own audio repair business, tips on tips, materials, work space and test devices, and where to get what you need.
CONTENTS—Profit Opportunities in Home Audio Servicing. Shop Facilities and Tools. How Preamplifiers, Amplifiers, and Tuners Work. Repairing Preamplifiers. Amplifiers, and Tuners. Getting Acquainted with Phonograph Records. How to Replace Pickups and Needles. Getting Acquainted with Record Changers. Motors and Drives. Repairing Changer Tripping Mechanisms. Repairing Changer Record-dropping Mechanisms. Cycling Pickup Arms in Changers. Repairing Changer Shut-off Mechanisms. Record-changer Troubleshooting. Getting Acquainted with Tape Recorders. Tape-recorder Troubleshooting. Troubleshooting Complete Music Systems.

THE LIBRARY OF ELECTRICAL MAINTENANCE AND REPAIR $39.50*r*
Annett—Electrical Machinery
Braymer and Roe—Rewinding Small Motors
Dudley—Connecting Induction Motors
Stafford—Troubles of Electrical Equipment

Electronics Principles and Applications

CAVERLY—Primer of Electronics and Radiant Energy
By DON P. CAVERLY, Sylvania Electric Products, Inc. Second Edition.
343 *pp.*, 5½ *x* 8, *illus.* (1952).....$8.00*t*
Here is an especially clear and simple explanation of electronics and electronic tubes and circuits for all concerned with the manufacture, application, or operation of house-

† *Textbook edition available at educational list prices.*

hold or industrial electronic devices. It will give any electrical worker or salesman of electrical supplies the essential background in electronics which he will need increasingly on his job.

CONTENTS—PART I. ELECTRICITY. Energy and Matter. Electric Current. PART II. MAGNETISM. Magnetic Force. Transformers. PART III. ELECTROMAGNETIC RADIATION. Energy. Control of Light. Infrared Radiation. Ultraviolet Slow Oscillations. Radio Waves. Ultrahigh Frequencies and Microwaves. X-ray. PART IV. ELECTRON TUBES AND SOURCES OF RADIANT ENERGY. Electron Emission. Incandescent Light Bulbs. Strobotrons.

CHERNOV—Wave Propagation in a Random Medium

By LEV A. CHERNOV, Acoustics Institute, Academy of Sciences in the USSR. Translated from the Russian by R. A. SILVERMAN, Institute of Mathematical Sciences, New York University.

168 *pp.*, 7⅛ *x* 9⅞, *illus.* (1960).....$7.50*i*

This is the first textbook available to English readers, on the problem of wave propagation in a Random Medium. Practical problems of acoustics, optics, and radiophysics have made such a volume necessary. The book gives a systematic account of the influence of refractive index fluctuations on the characteristics of electromagnetic and acoustic waves propagating through the troposphere or the ocean. It is shown that initially the phenomenon is governed by the equations of geometrical optics, but after the wave has penetrated a certain critical distance into the medium, a diffraction theory treatment is needed.

CONTENTS—PART I. RAY THEORY. Statistical Characteristics of the Medium. Ray Statistics. PART II. DIFFRACTION THEORY. The Wave Equation. Scattering by Inhomogeneities. Fluctuations. Correlation of Fluctuations. PART III. THE INFLUENCE OF FLUCTUATIONS ON THE DIFFRACTION IMAGE OF A FOCUSING SYSTEM. Introductory Remarks. General Formulas. The Mean Distribution Near the Focus. Fluctuations Behind the Lens. APPENDIXES. REFERENCES.

COOKE AND MARKUS—Electronics and Nucleonics Dictionary

By NELSON M. COOKE, Cooke Engineering Co., and JOHN MARKUS, McGraw-Hill Book Co.

543 *pp.*, 6 *x* 9, 452 *illus.* (1960)....$15.00*i*

An illustrated dictionary giving concise, up-to-date definitions, abbreviations, and synonyms for over 13,000 terms used in such areas as television, radio, radar, industrial electronics, medical electronics, avionics, space electronics, nuclear science, and nuclear engineering. All definitions are in accord with those standardized by engineering organizations; synonyms, deprecated terms, and obsolete terms are clearly labeled as such; spelling and hyphenation of controversial words, compound terms, and abbreviations reflect current usage. Thus, the book serves as a dependable style manual for engineers, writers, editors, stenographers, and others working in these fields. Completely cross-referenced and illustrated.

GILLIE—Electrical Principles of Electronics

By ANGELO C. GILLIE, Niagara County Community College, Niagara Falls, N. Y.

532 *pp.*, 6 *x* 9, 323 *illus.* (1961)....$10.00*t*†

This is a two-semester, comprehensive modern text on the fundamental principles and laws of electricity required for the study of electronics. It is designed especially for the first course in electronics for engineering technicians. The material provides the student with the background necessary to prepare for any of the electronics specialties. All circuit analysis problems are accompanied by at least one completely worked-out examples.

CONTENTS—Characteristics of Unidirectional Circuits: Principles of Electron Physics. Unidirectional Current: Factors Affecting Its Magnitude. Series-Circuit Analysis. Parallel-Circuit Analysis. Series-Parallel Circuit Analysis. Complex Unidirectional-Current Circuits. The Phenomena of Magnetism and Electromagnetism. Inductance and Its Characteristics. Characteristics of Capacitance. Electrical Measurement Instruments. Characteristics of Sinusoidal Circuits: Analysis of the Sine Wave. Series Circuits with a Sine-Wave Input. Series Resonance. Parallel Circuits with a Sine-Wave Input. Parallel Resonance. The Transformer (Nonresonant) The Transformer (Resonant) Attenuators and Pads. Passive Filter Networks. Characteristics of Complex Waveform Circuits: Complex Bidirectional Waveforms. Complex Waveform Analysis of Simple Circuits. Waveform Analysis of Series-RC Circuits. Waveform Analysis of Series-RL Circuits. Waveform Analysis of Combined Networks. Bibliography. Tables.

GILLIE—Principles of Electron Devices

By ANGELO C. GILLIE, Niagara County Community College, Niagara Falls, N. Y.

592 *pp.*, 6 *x* 9, 411 *illus.* (1962)....$11.50*t*†

Written at the technical institute level and designed for an introductory course on circuit analysis. The text treats the fundamental properties of all commonly used electronic control devices: transistors, vacuum tubes, gas tubes and photo-electric devices. Its chief purpose is to enable the technician to acquire a theoretical background of basic circuits and to be able to design, evaluate and analyze them. Actual design techniques are presented in logical, step-by-step fashion. These techniques are then used in the design of actual circuits which are evaluated and analyzed. A noteworthy feature is the presentation of techniques which offer alternatives based on material known to the technician. The techniques have been completely checked out and design techniques for each important circuit possibility are given. The text offers complete coverage of transistor multivibrator theory and design. It presents practical applications as well as theory of several relatively new devices including: Zener diode, tunnel diode, silicon controlled rectifier, unijunction transistor, and semiconductor photo-electric devices. This book is a companion volume to Gillie's ELECTRICAL PRINCIPLES OF ELECTRONICS.

CONTENTS—1. Fundamentals of Non-linear Resistive Control Devices. 2. Volt-ampere Characteristics of Non-linear Resistive Control Devices. 3. Semiconductor Physics. 4. Junction Transistor Characteristics. 5. Bias and Coupling Techniques for the Junction Transistor. 6. Linear Applications of Transistors. 7. Non-linear Transistor Amplifiers and Sinusoidal Oscillators. 8. Transistor Multivibrators and the Unijunction Transistor. 9. Diode Applications (Semiconductor and Vacuum Tube). 10. The Amplifying Vacuum Tube. 11. Vacuum Tube Amplifiers and Oscillators. 12. Semiconductor and Vacuum Tube Logic Circuits. 13. Semiconductor and Vacuum Tube Modulation and Detector Circuits. 14. Principles of Gas Tubes. 15. Photo-electric Devices. Index.

GROB—Basic Electronics

By BERNARD GROB, RCA Institutes, New York.

524 *pp.*, 6 *x* 9 (1959).....$9.25*t*†

An introductory text on the fundamentals of electricity and electronics for technicians in radio, television, and industrial electronics. The text is well suited to classroom or self-study use as it is written in the same, exceptionally clear style that makes the author's *Basic Television* so highly successful. *Applications of Electronics* is the companion volume.

CONTENTS—Electricity. Ohm's Law. Series Circuits. Parallel Circuits. Series-Parallel Circuits. D-C Meters.

† *Textbook edition available at educational list price.*

Conductors and Insulators. Resistors. Batteries. Magnetism. Magnetic Units. Electromagnetism. Alternating Voltage and Current. Inductance. Inductive Reactance. Inductive Circuits. Capacitance. Capacitive Reactance. Capacitive Circuits. A-C Circuits. Resonance. Filters. A-C Losses. Vacuum Tubes. Transistors. Bibliography. Glossary. Appendixes: Powers of Ten. Logarithms. Transposing Equations. Tables of Logarithms. Table of Trigonometric Functions. Physical Constants. Color Coding. Preferred Sizes of Resistors. Schematic Symbols. Self-Examination Answer Key. Index.

GROB—Elementos de Electrónica, Second Edition

554 *pp.*, 6 *x* 9 (1963).....$6.50*r*

GROB AND KIVER—Applications of Electronics

By BERNARD GROB, RCA Institutes, New York, and MILTON S. KIVER, *Electronic Packaging and Production.*

628 *pp.*, 6 *x* 9, 495 *illus.* (1960)....$10.00*r*†

A companion and follow-up text to Grob's *Basic Electronics*, this volume covers all the major applications of electronics clearly and thoroughly. Together, the volumes provide a comprehensive electronics course for technicians and servicemen. The books may also be used independently. Learning aids include problems, chapter summaries, self-examinations, and periodic chapter reviews.

CONTENTS—Preface. Vacuum-Tube Amplifiers. Transistor Amplifiers. Audio Circuits. Radio-Frequency Circuits. Oscillators. Power Supplies. Modulation and Transmitters. Transmitter Circuits. Antennas and Transmission Lines. Principles of Receivers. Superheterodyne Receivers. Receiver Circuits. Test Instruments. Pulse Circuits. Industrial Electronics. Military Electronics. Electronic Navigational Aids. Appendixes. Bibliography.

HICKEY AND VILLINES—Elements of Electronics

By HENRY V. HICKEY, The Technical Material Corporation, and WILLIAM M. VILLINES, JR., Olympia Vocational–Technical Institute, Olympia, Wash. Second Edition.

549 *pp.*, 6 *x* 9, 490 *illus.* (1961)....$8.75*r*†

The second edition starts with a comprehensive survey of basic physics. It then progresses through the study of a simple transmitter and receiver, with all associated and related material thoroughly explained as it appears in sequence. Mathematics is integrated into the text where necessary. This new edition introduces an excellent section on transistors. The transition from electron theory to the transistor theory is expertly interpreted so that the average student may readily understand it. This text has been designed to offer the reader a basic training course in elementary electronics.

CONTENTS—FOREWORD. PREFACE. Fundamentals of Electricity. Introduction to Vacuum Tubes. Electric Circuits. Simple Circuits. Triode Vacuum Tubes. Parallel Circuits. Combination Circuits. Principles of Magnetism. Electromagnetism and Magnetic Circuits. Ammeters. The Voltmeter. The Ohmmeter. Multimeters, Wheatstone Bridge, and Megohmmeters. Vacuum-Tube Voltmeter. Alternating-Current Fundamentals. Introduction to Trigonometry. Vectors and Phase Relationships. Laws and Properties of Inductance. Inductor Characteristics and Applications. Laws and Properties of Capacitance. Capacitor Characteristics and Applications. Series LCR Circuits. Parallel-resonant Circuits. Application of LCR Circuits. Sources of Direct Current. Alternating-Current Generators. Power Transformers. Batteries. Introduction to Power Supplies. Power Supplies and Rectifiers. Voltage Dividers and Regulators. Voltage Doublers and Bridge Rectifiers. Tetrodes and Pentodes. Amplifiers and Oscilloscopes. *RC*-Coupled Voltage Amplifiers. Transformer-Coupled Amplifiers and Frequency Response. Amplifier Circuits. Miscellaneous and Hi-Fi Amplifiers. Oscillators. Transmitter Circuits. Transmitter Tuning and Keying. Modulation Principles. Antennas and Transmission Lines. Typical Transmitter. Receiver Introduction. TRF Receiver and Receiver Circuits. Receiver Circuits and Wave Propagation. Superheterodyne Receiver and Circuits. Typical Receiver. Transistors. APPENDIX. VISUAL AIDS. INDEX.

SLURZBERG AND OSTERHELD—Essentials of Radio-Electronics

By MORRIS SLURZBERG, Henry Snyder High School, and WILLIAM OSTERHELD, William T. Dickinson High School. Second Edition.

716 *pp.*, 6 *x* 9, 393 *illus.* (1961)....$10.00*r*†

Offers a comprehensive study of the principles of operation of vacuum tubes and transistors, their basic circuits, and the application of these circuits to audio-frequency sound systems and radio-receiver applications. The material provides the background necessary for further study of electronics in fields such as high frequency and ultra-high frequency circuit applications. A minimum knowledge of mathematics is required.

CONTENTS—Introduction to Radio. Vacuum Tubes. Amplitude-Modulation Detector Circuits. Tuning Circuits. Radio-frequency Amplifier Circuits. Audio-frequency Voltage-amplifier Circuits. Power-amplifier Circuits. Vacuum-tube Oscillator Circuits. Power-supply Circuits. Audio Units, and Hi-fi Reproduction. A-M Receiving Circuits. F-M Receiving Circuits. Transistors. Transistor Amplifier Circuits. Transistor Receiver Circuits. Test Equipment. APPENDIXES.

ZBAR AND SCHILDKRAUT—Laboratory Manuals for Basic Electricity, Basic Electronics, and Basic Radio and Radio-receiver Servicing

By PAUL ZBAR, Voorhees Technical Institute, and SID SCHILDKRAUT, Electronic Industries Association. Manuals sponsored by EIA.

These three manuals are designed as an aid for training radio and electronics technicians in fundamental skills. The manuals contain a total of 72 lab-tested experiments which may be performed with standard laboratory equipment. Every experiment includes a statement of the objectives, a comprehensive discussion of the theory and principles underlying the work in the experiment, a detailed procedure, and pertinent questions. These manuals can be used along with any beginning text.

Basic Electronics—Laboratory Manual

148 *pp.*, 8¼ *x* 11, 88 *illus.* Second Edition. (1958).....$2.25*v*

Contains 32 experiments on vacuum tubes and transistors and their applications, including rectifiers, amplifiers, detectors, oscillators, and phase inverters.

Basic Radio and Radio-receiver Servicing—Laboratory Manual

130 *pp.*, 8¼ *x* 11, 19 *illus.* Second Edition. (1958).....$2.25*v*

Contains 25 experiments on superheterodyne receivers, broadcast band, short wave, auto radios, FM receivers, multiband receivers, radio-phono combinations, printed circuits, and transistor receivers.

Basic Electricity—Laboratory Manual

97 *pp.*, 8¼ *x* 11, 19 *illus.* Second Edition. (1958).....$2.25*v*

Contains 29 experiments on direct and alternating current, the use of test instruments, resonance and thermistors.

ZBAR—Industrial Electronics Laboratory Manual for Electronics Technicians

By PAUL B. ZBAR, Voorhees Technical Institute.

201 *pp.*, 8¼ *x* 11, 300 *illus.* (1960).$5.00*v*

This Manual is designed to modernize, improve the level of, and extend the scope of electronic technician training. The material was prepared with the assistance of training specialists in industry to insure that it will aid the student in developing needed skills. All the experiments contained in this book have been lab-tested. Step-by-step instructions guide the student in performing the experiments himself. Also included are thirty-nine experiments which cover the basic elements of industrial electronics technology. In this approach, emphasis is on comprehension of the principles and circuits found most frequently in the electronic devices currently used in industry. Fundamental skills of electronic testing and analysis are stressed.

CONTENTS—Thirty-nine Experiments Covering Principles and Circuits of Industrial Electronic Devices as Well as Testing and Analysis.

RICHTER—Fundamentals of Industrial Electronic Circuits

By WALTER RICHTER, Consulting Electrical Engineer.

569 *pp.*, 6 *x* 9, 413 *illus.* (1947).....$6.95*c*

The primary purpose of the book is to show the fundamental principles applying to circuits containing vacuum tubes, reducing such circuits to a combination of more familiar circuit elements so that the average electrical engineer and practical man can analyze the performance of the circuits, and can design them himself.

CONTENTS—Fundamentals of Direct Current; Circuit Theorems; Power Relations, Mutual Inductance, Self-inductance; Capacitance. Resistance-Capacitance. Combination for Timing Purposes. Alternating Currents; Wave Shapes; Average and RMS Values; Vector Representation. Resistance, Inductance, and Capacitance in Alternating-current Circuits; the Transformer. Non-linear Conductors. Emission; Space Charge; Effect of Gas in a Tube. Fundamentals of Rectifier Circuits; the Ideal Rectifier and Its Analysis. Full-wave Rectifier Circuits; Filter Circuits for Rectifier. The Triode. Single Stage. Amplifier Performance; Tube Relays; Timing Relays. Bucking or Compensating Circuits; Bridge Circuits; Application of Vacuum Tubes for the Measurement of Direct Voltage without Current Drain. Multigrid Tubes. Power Relations in Alternating-current Amplifiers; Classes of Amplifiers; Push-Pull Operation. Multistage Amplifiers; Coupling Methods; Self-bias. Cathode Followers; Phase-inversion Circuits; Inverse-feedback Amplifiers. Detection; Vacuum-tube Alternating-current Voltmeter; Vacuum-tube Wattmeters. Properties of Tuned Circuits. Inductance-Capacitance. Tuned Oscillators. Beat-frequency Oscillators; Resistance-Capacitance Tuned Oscillators; Phase-shift Oscillators. Relaxation Oscillators; Multivibrators; Trigger Circuits. Gaseous Tubes and Their Characteristics. Fundamental Control Circuits for Gaseous Tubes. Photoelectric Tubes. Optical Systems; Light Sources; Filters for Photoelectric Tubes. Amplifier Circuits for Photoelectric Cells. Cathode-ray Tubes and Cathode-ray Tube Patterns. Auxiliary Circuits; Equipment for Cathode-ray Oscilloscopes.

KIVER—Transistors

By MILTON S. KIVER. Third Edition.

536 *pp.*, 6 *x* 9, 439 *illus.* (1962)....$9.00*r*†

A completely descriptive, non-mathematical (except for chapter 12) text for radio, television, and electronics technicians who lack a working knowledge of transistors and transistor circuits. This up-to-date revision reflects current practice in the transistor field. The book starts with modern electron theory and then progresses step-by-step, to the operation of every type of transistor in use today. This is followed by a discussion of transistor circuits as they appear in radio receivers, TV sets, and electronic circuitry, such as computers, electronic computers, etc. Only a basic electronics background is needed for complete comprehension; the simple presentation and graphic descriptions make the material readily understandable. The practical aspects of transistors and transistor operation are stressed—every effort is made to tie in all points with the reader's present knowledge of electronics. Experiments give the student the opportunity for learning first-hand the operational characteristics of transistors. The experiments can be performed using readily available parts. Supervision by an instructor is not necessary as the text guides the reader to the correct conclusions.

CONTENTS—1. Introduction to Modern Electron Theory. 2. Semiconductor Diodes and Transistors. 3. Transistor Characteristics. 4. Transistor Amplifiers. 5. Transistor Oscillators. 6. Transistor Radio Receivers. 7. Transistors in Television Receivers. 8. Industrial Applications of Transistors. 9. Additional Transistor Developments. 10. Servicing Transistor Circuits. 11. Experiments with Transistors. 12. Transistor Amplifier Design. Appendix: List of Symbols. List of Abbreviations. Index.

KIVER AND VAN EMDEN—Transistor Laboratory Manual

By MILTON S. KIVER, *Electronic Packaging and Production* and BERNARD VAN EMDEN, Automation Development Corp.

160 *pp.*, 8¼ *x* 11, 116 *illus.* (1962)..$2.95*c*

This practical manual, designed for technician training, comprises 18 experiments. It can be used not only with Kiver TRANSISTORS IN RADIO, TELEVISION AND ELECTRONICS, Second Edition, but also with any introductory text. The material can be covered in 60 class hours or may be shortened to suit class needs.

CONTENTS—Experiment 1. Transistor Familiarization. Exp. 2. Testing Transistors—DC Parameters. Exp. 3. Measuring h_{fe} (Beta) and h_{fb} (Alpha). Exp. 4. Interpreting Transistor Manufacturers Data Sheets. Exp. 5. Static Collector Characteristics. Exp. 6. Oscilloscope Presentation of Diode and Transistor Characteristic Curves. Exp. 7. Common-Emitter Amplifier Characteristics. Exp. 8. Common-Base Amplifier Characteristics. Exp. 9. Common-Collector Amplifier Characteristics. Exp. 10. A Comparison of Transistor Amplifier Characteristics. Exp. 11. Bias Stability and Temperature Behavior. Exp. 12 Semiconductor Oscillators. Exp. 13. Direct-Coupled Amplifiers. Exp. 14. Transistor Voltage Regulators. Exp. 15. Transistor Current Regulator. Exp. 16. Transistor Switching Circuits. Exp. 17. Transistor Magnetic Circuits. Exp. 18. Silicon Controlled Rectifier.

VAN VELZER—Physics and Chemistry of Electronics Technology

By H. L. VAN VELZER.

372 *pp.*, 6 *x* 9, 200 *illus.* (1962)....$10.00*i*

Provides full reference to physics and chemistry in relation to tube technology. Written for the technician, engineer, and student, this practical manual covers such important areas as: structure of matter, energy and current, the solid state, theory of metals and alloys, machining operations, the oxide coated cathode, gas filled tubes, the electromagnetic spectrum, vacuum equipment and techniques, leak detection and mass spectroscopy, miniaturization, tube types, and much more.

PRACTICAL INDUSTRIAL ELECTRONICS LIBRARY $19.95*r*

Chute—Electronics in Industry, 2 Ed.
Henney and Fahnestock—Electron Tubes in Industry
Miller—Maintenance Manual of Electronic Control

Radio and Radio Servicing

ALBERT—Radio Fundamentals

By ARTHUR L. ALBERT, Oregon State College.

595 *pp.*, 6 *x* 9, 254 *illus.* (1948).....$6.00*c*

Designed as a companion volume to *Electrical Fundamentals of Communication*, this non-mathematical presentation for beginning stu-

† *Textbook edition available at educational list price.*

dents, radio technicians, and radio amateurs, covers the basic acoustical and electrical principles of radio. Not previously treated in a book of this type are the magnetron, the phasitron, and the klystron. Descriptive material is amply illustrated by diagrams, and review questions and problems are included.

CONTENTS—Preface. Fundamentals of Acoustics. Electrical Fundamentals. Series and Parallel Resonant Circuits. Power Transfer and Impedance Matching. Transmission Lines, Cables, and Networks. Vacuum Tubes. Rectifiers. Voltage Amplifiers. Power Amplifiers. Oscillators. Modulation and Demodulation. Radio Transmitters. Antennas and Radio Transmission. Radio Receivers. Index.

GRAY AND GRAHAM—Radio Transmitters

By LAURENCE GRAY and RICHARD GRAHAM, Transmission Laboratory, ITT Laboratories.

462 *pp.*, 6 *x* 9, 408 *illus.* (1961)....$12.50*i*

Provides a working knowledge of radio transmitters for efficient solution of problems in their operation and maintenance. Covers important phases of the transmitter field . . . gives a detailed analysis of transmitter components . . . and supplies design information on amplifiers, coupling circuits, frequency control units, power supplies, cooling equipment, and control circuits. The book presents proved methods of modulation and keying, testing and measurements techniques, color TV transmission, ferrite circulator applications, and much more. In a logical, easy-to-understand fashion, it also explains frequency control techniques, design and construction of transmitting type tubes, phase and pulse modulation, power supply design, AM and FM, transmitters for navigation, radar, and mobile communication, plus other vital radio transmission topics.

CONTENTS—Introduction. Frequency Control Techniques. R-F Power Amplifiers. R-F Power Tubes. Coupling Circuits. Amplitude Modulation. Angle and Pulse Modulation. Power Supplies. Control and Protective Circuits. Cooling. R-F Components. Transmitter Characteristics. Transmitter Measurement Techniques. Hazards Associated with Transmitters.

GRIFFITH—Radio-Electronic Transmission Fundamentals

By B. WHITFIELD GRIFFITH, General Electrodynamics Corp., Texas.

624 *pp.*, 6 *x* 9, 217 *illus.* (1962)....$10.75*t*†

An exceptionally clear presentation of the fundamentals of radio engineering written at the electronics technician level. The material is designed for those interested in the generation and handling of high power electrical energy of radio frequency, whether for use in radio transmission or in fields such as induction and dielectric heating, plasma generation, or in medical and chemical applications. The material is presented without the use of higher mathematics. Parts I and II serve as an introduction or refresher on electrical networks and transmission lines theory. Applications are taken up in Parts III and IV which discuss radio antennas and radio transmitters.

CONTENTS—Part I. Electrical Networks. A Brief History of Electrical Knowledge. Fields of Force. Potential and Current. DC, AC, and RF. Ohm's Law in Retrospect. The Concept of Impedance. The Concept of Admittance. Resistance. Inductance. Capacitance. Alternating Current: the "Cycle." Phase Angle. Complex Notation. Arithmetic Rules of Complex Numbers. Network Analysis I. Network Analysis II. The Loci of Vectors. The Circle Diagram. Network Synthesis. A Little Calculus. Part II. Transmission Lines. The Transmission Line as a Distributed Network. Transmission Line Parameters. Characteristic Impedance. Propagation Function. Reflection. Fields and Energy. Skin Effect. Radiation and Its Control. Coaxial Lines: Uses and Construction Practice. Impedance and Attenuation. Power Limitation. Flexible Coaxial Lines. Open-Wire Lines: Uses and Construction Practice. Impedance and Attenuation. Power Limitation. Transmission Lines for Special Impedances. Transmission Lines Special Purposes. Part III. Radio Antennas. The Mechanism of Radiation. Current and Field Intensity. Radiation Resistance. Resonance and Reactance. The Vertical Antenna: Power and Field Intensity. Ground System and Efficiency. Groundwave Propagation. Practical Operation of the Vertical Antenna. Special Methods of Feeding Antennas. Long Wave Antennas. The Field of Two Antennas. Multielement Arrays. Mutual Impedance. Phasing and Coupling Equipment. The Phase Monitor. Directional Antenna Adjustment. Short Wave Antennas. Part IV. Radio Transmitters. The Thermionic Vacuum Tube. The Radio Frequency Amplifier. Oscillation and Neutralization. Design of the Tank Circuit. Modulation and Bandwidth. The Grid-Modulated Amplifier. The Plate-Modulated Amplifier. The Class B Linear Amplifier. The Doherty Linear Amplifier. Outphasing Modulation. Inverse Feedback. Single Sideband Transmission. Three-Phase Power. Rectifiers and Control Circuits.

HORNUNG AND McKENZIE—Radio Operating Questions and Answers

By J. L. HORNUNG; and ALEXANDER A. McKENZIE, *Electronics*. Twelfth Edition.

571 *pp.*, 5½ *x* 8, *illus.* (1955).....$7.75*t*†

Presents specific information on radio law, operating practice, and theory for those studying to pass the Federal Communications Commission commercial radio operator exams of the various license grades. This book contains the answers to all questions suggested for study in the FCC "Study Guide and Reference Material for Commercial Radio Operator Examinations."

CONTENTS—How to Use This Book. Radio Laws, Regulations, and Operating Practices. General Theory, Transmitters, Receivers. Power Supplies, Batteries, Motors, Motor-Generators, Indicating Instruments. Special Endorsements.

MARCUS AND LEVY—Elements of Radio Servicing

By WILLIAM MARCUS, Corona Junior High School, and ALEX LEVY, Thomas A. Edison Vocational High School, New York. Second Edition.

557 *pp.*, 6 *x* 9, 480 *illus.* (1955)...$8.25*t*†

Correlated Text-Film Filmstrip Series—six filmstrips.....each $6.00
set $32.50

Gives practical, step-by-step procedures for finding troubles in radio receivers and making repairs. Presents information so clearly that readers with a background of simple radio theory can understand it. Emphasizes over-all servicing procedures.

CONTENTS—Superheterodyne Receivers. Servicing Procedure. Multimeters. Signal Generator—Introductory. Setting Up the Signal Generator. Signal Generator Applications. AC Power Supply. Loudspeakers. Second or Power Audio-Amplifier Stage. First Audio-amplifier Stage. Detector Stage—AVC. IF Amplifier Stage. Converter: Mixer and Oscillator Stages. Further Notes on the Converter—Variations. RF Amplifier Stage. Antennas. AC/DC Power Supply. Portable Receivers. Automobile Radio Installation. Auto Radio Power Supplies. Push-Pull Output Stage. Alignment of a Superheterodyne Receiver. Survey of the FM Receiver. Servicing of the AM-FM Receiver. Alignment of FM Receivers. Survey of the Servicing Procedure. The Service Bench.

MARCUS AND LEVY—Practical Radio Servicing, 2nd Ed.

By WILLIAM MARCUS, Bayside Public School, New York, and ALEX LEVY, Technical High School, New York.

624 *pp.*, 6 *x* 9, 448 *illus.* (1963)...$11.95*tL*

This book is a combination of two previous books by the same authors, *Practical Radio Servicing* and *Profitable Radio Troubleshooting*, up-dated to cover printed circuits, transistor circuits, and all other recent radio develop-

ments. In one volume the authors build up, step by step, the ability to fix all types of radio sets at professional speed, as required to make radio repairing an important part of a serviceman's income. Radio circuits are taken up one stage at a time, each followed by test procedures and quick-reference trouble-shooting charts that locate the stage containing a bad part. Special troubleshooting techniques for auto radios, transistor portables, f-m receivers, and other special types of sets make up the next group of chapters. The remainder of this book contains chapters dealing with one major type of trouble and telling how to go from the obvious symptom to the possible causes.

SHRADER—Electronic Communication

By ROBERT L. SHRADER, Oakland City College, Laney Trade-Technical Division.

937 *pp.*, 6 *x* 9, 728 *illus.* (1959)....$13.00*t*

A complete text for the beginner in electronics who plans to become a licensed radio operator, and for those preparing to become electronics technicians. Covers fundamentals of electricity and electronics, radio transmitters and receivers, radiotelephone and radiotelegraph communication, and all information required for passing FCC tests for various classes of commercial and radio operator's licenses. Throughout, mathematics and problem-solving techniques are explained as needed. FCC license requirements are emphasized. Each chapter contains two sets of questions—one set taken from the FCC Study Guide for Commercial Radio Operator Exams, the other covering amateur licenses, both Novice and General Class. The commercial license questions give the corresponding FCC element numbers; all questions are keyed to the section of the text where the answer can be found.

CONTENTS—PART 1. BASIC ELECTRICITY. Current, Voltage, and Resistance. D-C Circuits. Magnetism. Alternating Current. Inductance. Capacitance. A-C Circuits. Resonant Circuits. PART 2. ELECTRONICS. Vacuum Tubes. Meters. Power Supplies. Oscillators. Audio-frequency Amplifiers. Radiofrequency Amplifiers. Basic Transmitters. Amplitude Modulation. AM Receivers. Frequency Modulation. FM Receivers. Measuring Frequency. Batteries. Motors and Generators. PART 3. APPLICATIONS OF ELECTRONICS. The Broadcast Station. Television. Shipboard Radio Stations. Radio Direction Finders. Loran. Radar. Basic Communication Laws. Communicating by Voice. Amateur Rules and Regulations. APPENDIX. Table of Trigonometric Functions. Logarithm Tables. Index. Answers to Problems.

WATSON, WELCH, AND EBY—Understanding Radio

By HERBERT M. WATSON, Consulting Radio Engineer, Richmond, California, HERBERT E. WELCH, and GEORGE S. EBY, Stockton College. Third Edition.

706 *pp.*, 6 *x* 9, 508 *illus.* (1960)....$8.25*t*†

An easy-to-understand beginners' book on radio, covering the fundamentals of electronics, magnetism, capacitance, and inductance, and the action of these phenomena in resonant circuits, and in many radio receiving and transmitting circuits. Emphasis throughout is one learning-by-doing, giving the student step-by-step thorough knowledge of radio fundamentals and practice. The new edition presents a new chapter on transistors, a revised tube chart, and changes throughout the book to bring all material up to date, in line with recent developments.

CONTENTS—Radio—Sound's Seven League Boots. Radio Waves and Wave Travel. Something About Electricity. Magnetism and Direct-current Meters. Ohm's Law by Simple Mathematics and by Motors. How to Build and Wire the Tube Circuit Board. Principles of the Vacuum Tube. Wave-form Pictures. The Simplest Receiving Set—The Crystal Detector. Alternating Currents in Radio Circuits. Resonance and Tuning. Receiving Sets Using Direct-current Tubes. The Dynamic Loudspeakers. Power Supplies. Alternating Current Receiving Tubes. Basic Receiving Circuits Using Alternating-current Tubes. The Superheterodyne Receiver. Short Wave Sets. Public Address Units. Power Oscillators and Amplifier Circuits. Radio-telegraph Transmitters. Radio-telephone Transmitters. Antennas. The Very High Frequencies. Frequency Modulation. Transistors. Looking Ahead in Radio.

Television and Television Servicing

ANTHONY—Profitable Television Troubleshooting

A Step-by-step Guide to Efficient Professional Servicing of Black-and-white and Color Television Receivers

By EUGENE ANTHONY, Consultant, General Electric Company. Second Edition.

418 *pp.*, 6 *x* 9, 217 *illus.* (1963)....$7.25*tL*

Updated to include the latest improvements in television receiver design, the second edition of this unique approach to television servicing shows how to handle all phases of black-and-white and color repairs. Includes new chapters on wireless radio and ultrasonic remote controls for television receivers. In addition, the color television chapters have been completely revised to correspond with current practice. All other chapters have been updated where necessary, preserving the author's simple and practical approach.

FOWLER AND LIPPERT—Television Fundamentals

Theory, Circuits, and Servicing

By KENNETH FOWLER and HAROLD B. LIPPERT, General Electric Company. *McGraw-Hill Series in Television.*

524 *pp.*, 6 *x* 9, 444 *illus.* (1953).....$8.00*v*

A simple nonmathematical presentation of the basic principles the radio technician must know in order to advance to installation and service work on television receivers. The treatment is sound and theoretical and describes each of the elements of the receiver system—from the antenna to the picture tube. The book includes practical installation procedure.

CONTENTS—Brief Analysis of the Television System. The Picture Tube. The Television Signal. The Television Receiver-General. R-F, Oscillator, and Convertor Circuits. Video and Audio I-F Circuits. Video Detector and Amplifier. Sweep Generators. Deflection Circuits. Synchronization. Automatic Frequency Control of Horizontal Sweep Generators. Power Supplies. Receiving Antennas and Their Installation. Test Equipment and Alignment. Servicing. Troubleshooting by Picture Analysis.

GROB—Basic Television, 3rd Ed.

Principles and Servicing

By BERNARD GROB, RCA Institutes Inc.

In Press

Presents a comprehensive course in television, including color television, for electronic technicians and radio servicemen. The practical explanations of television principles and receiver circuits were written for the beginning student in television. A separate chapter for each section of the receiver allows a thorough analysis of typical circuits. In addition to troubleshooting principles helpful in repairing receivers, each circuit section is analyzed as an application of basic electronic principles that apply to all types of electronic equipment. Altogether, this edition features a larger, more

† *Textbook edition available at educational list price.*

expanded coverage on color television, kinescope set-up and convergence techniques, circuits, transistors, UHF tuners and remote tuners. The text includes teaching aids—summaries, self-examination questions, essay questions, and separate problems.

CONTENTS—The Television System. Camera Tubes. Scanning and Synchronizing. Composite Video Signal. Picture Carrier Signal. Television Receivers. Picture Tubes. Power Supplies. Video Amplification. Practical Design of Video Amplifiers. Brightness Control and D-c Reinsertion. Video Detector. Automatic Gain Control. Sync Separation. Deflection Oscillators. Horizontal AFC Circuits. Vertical Deflection Circuits. Horizontal Deflection Circuits. Picture I-F Amplifiers. The R-F Tuner. Antennas and Transmission Lines. The F-M Sound Signal. Receiver Servicing. The Color Television System. Color Television Receivers. Appendixes. A. Television Channel Frequencies. B. FCC Frequency Allocations. C. Principal Television Systems of the World. D. Development of Television Broadcasting. E. Time Constant and Transient Response. Answers to Short-answer Questions. Answers to Odd-numbered Problems. Bibliography. Index.

KIVER—Color Television Fundamentals, 2nd Ed.

By MILTON S. KIVER, Milton S. Kiver Publications, Inc.

In Press

This text covers the basic principles of color television, the operation of color television receivers, and the fundamentals of both installation and servicing. Anyone familiar with the black-and-white process can follow the step-by-step explanations. This second edition has been completely revised and incorporates all major advances in color receivers, including explanations of recent changes on various circuits and components.

CONTENTS—Color Fundamentals. NTSC Color Television System. The Three-gun Color Receiver in Block Form. Color Receiver Circuits. Three-gun Color Picture Tubes. Deflection and Convergence Circuits of Three-gun Color Receivers. Typical Color Television Receivers: Analysis and Alignment. Color Television Receiver Servicing. Appendix. Glossary.

LEVY AND FRANKEL—Television Servicing

By ALEX LEVY, Chelsea Vocational High School, and MURRAY FRANKEL, TV Maintenance Corp.

534 *pp.*, 6 *x* 9, 345 *illus.* (1959) . . . . $8.25*t*†

Presents practical step-by-step procedures in the servicing of TV receivers. Each major section of the TV set is presented in turn; the procedure being first to find the section in which the trouble occurs and then to find the defective component. Over 95 per cent of the receivers now actually in use employ the circuits discussed. From an understanding of these circuits which make up the different sections of the receiver, the reader gains a logical understanding of the principles involved. The book is well suited for use in a beginning course on TV servicing or by the practicing serviceman who wishes to refresh his knowledge. A knowledge of basic electronics is prerequisite to this text.

CONTENTS—Functional Sections of a TV Receiver. Scope of the Book. Field Servicing and Trouble Index. Servicing Low-voltage Power Supplies. Servicing the Deflection Section: Vertical Sweep Circuits. Servicing the Deflection Section: Horizontal Output, Damper, and High-voltage Stages. Servicing the Deflection Section: Horizontal Oscillator and AFC Stages. Servicing the SYNC Section. Servicing the Picture Chain: Video Amplifier and Picture Tube Circuits. Servicing the Picture Chain: Replacement Notes on Picture Tube. Servicing the Picture Chain: Detector Stage. Servicing the Picture Chain: i-f/agc Systems. Servicing the Picture Chain: Further Notes on AGC Systems. Servicing the Picture Chain: Tuners. Servicing the Sound Section. Antenna Installation and Service Notes.

MARKUS—How to Make More Money in Your TV Servicing Business

By JOHN MARKUS.

340 *pp.*, 6 *x* 9, 62 *illus. and* 32 *tables* (1962) $7.95*tL*

Provides practical business techniques for winning more and better customers and greatly increasing profits in the TV, radio, and home audio servicing business. Written for TV-radio servicemen, this comprehensive book contains the answers to hundreds of business questions, from making home service calls to modernizing your shop, from charging profitable rates to guaranteeing your work. Includes scores of business forms, mailing pieces, advertising ideas, and other ready-to-use aids. Here you will find best ways to set up simple business records . . . find new customers . . . plan and create effective advertising programs . . . handle requests for power prices . . . win repeat business . . . choose the right business insurance . . . hire and supervise servicemen . . . and much more.

CONTENTS—Preface. When to Start Part-time Servicing. When to Start Full-time Servicing. How to Choose a Good Business Name. How to Rent a Shop You Can Afford. How to Modernize Your Shop. How to Buy Parts at Wholesale Prices. Money-making Answers to Business Telephone Problems. How to Make Home Service Calls. How to Guarantee Your Work. Importance of Charging Profitable Rates. Recommended Service Charges for Jobs. How to Estimate Service Charges. The Right Way to Make Out a Bill. How to Handle the Money You Make. How to Set Up Simple Business Records. How to Plan Your Advertising Program. How to Write Good Advertising Copy. How to Make Telephone-directory Ads Pay. How to Make Handbill Advertising Pay. Tested Ideas for Getting New Customers. How to Discourage Requests for Lower Prices. How to Handle Callbacks and Complaints. Sure-fire Ways to Impress Your Customers. How to Hold Your Profitable Customers. Money-saving Solutions to 18 Business Problems. How to Answer 15 Common Questions. How to Collect from Charge Customers. How to Avoid Legal Troubles. How to Choose the Business Insurance You Need. How to Hire and Manage a Good Office Girl. How to Hire and Manage a Good Serviceman. Dangers of Buying a Servicing Business. How to Expand into Receiver Sales. Secrets of Successful Selling. How to Handle Installment Sales. How to Save Money on Your Income Tax. Index.

MARKUS—Television and Radio Repairing

By JOHN MARKUS, McGraw-Hill Book Company, Inc. Second Edition.

568 *pp.*, 6 *x* 9, *illus.* (1961) $8.95*tL*

A manual of servicing that covers in detail all parts of television and radio receivers, showing how to test, repair, and replace each component. Clearly explains how to make a service call and the tools necessary for the job. Power supplies, resistors, capacitors, coils, tuning devices, and speakers are all covered with only a minimum of mathematics. Includes information on such advances as printed circuits, transistors, selenium and germanium rectifiers, wire-wrap connections, remote-control devices, and clock-radio timers.

CONTENTS—Getting Started in Servicing. Tools Needed for Servicing. How Television and Radio Sets Work. Making a Service Call. Getting Acquainted with Electricity and Magnetism. How to Use a Multimeter. Removing and Replacing Receiving Tubes. Removing and Replacing Picture Tubes. Testing Tubes without a Tube Tester. Using a Tube Tester. How to Solder. Soldering and Repairing Printed Circuits. Testing and Replacing Transistors and Crystal Diodes. Power-supply Troubles in Home, Portable, and Auto Sets. Testing and Replacing Carbon Resistors. Testing and Replacing Wirewound Resistors. Testing and Replacing Controls, Switches, and Clock-radio Timers. Testing and Replacing Capacitors. Testing, Repairing, and Replacing Coils and Transformers. Adjusting and Repairing Tuning Devices and Remote

† *Textbook edition available at educational list price.*

Controls. Repairing and Replacing Loudspeakers. Repairing Cabinets. Installing and Repairing Television and Radio Antennas.

ZBAR AND SCHILDKRAUT—Laboratory Manual for Basic Television and Television—Receiver Servicing

By PAUL ZBAR, Voorhees Technical Institute, and SID SCHILDKRAUT, Electronic Industries Association. Manuals sponsored by EIA.

297 *pp.*, 8½ *x* 11, 401 *illus.* (1958)..$4.50*v*

Contains 55 Experiments covering fundamental skills in TV receivers and TV receiver servicing. Experiments cover all phases of TV servicing including circuits, oscillators, amplifiers, UHF and VHF, troubleshooting and interpretation, and antenna adjustment.

RABINOFF AND WOLBRECHT—Principles of Television Servicing

By CARTER V. RABINOFF, American Television Laboratories of California, and MAGDALENA E. WOLBRECHT, formerly American Television Laboratories of California.

55 *pp.*, 6 *x* 9, 385 *illus.* (1953).....$7.75†

A complete and practical manual on television servicing. The approach used is nontheoretical and emphasis has been placed upon presenting servicing information by means of illustrations and diagrams. Trouble-shooting hints and service suggestions are included throughout.

CONTENTS—A Survey of Commercial Receivers. Basic Principles of the Television System. Preliminary Receiver Investigation. Adjusting the Pre-set Controls. Television RF Tuners and IF Stages. Second Detectors. Video Amplifiers and AGC. DC Restoration and Picture Tubes. Sync Pulse Separating and Sweep Circuits. AFC Sync Systems. Low- and High-Voltage Power Supplies. Projection Receiver Systems. Television Receiver Sound Sections. Aligning Video IF Stages. Aligning the RF and Oscillator Sections. Radio-Television Combinations. Turntables and Record Changers. Standard Antenna and Transmission Lines. Antenna and Receiver Installations. The Problems of TVI. Television Receiver Trouble Shooting. Test Equipment for Servicing. Building Up a Servicing Business. Appendix. Questions. Index.

Home Economics

AMERICAN HOME AND FAMILY SERIES

(Amer. Home & Fam. Series)

Helen Judy Bond, Consulting Editor

Barclay and Champion—Teen Guide to Homemaking
Carson—How You Look and Dress
Carson and Ramee—How You Plan and Prepare Meals
Hurlock—Child Growth and Development
Landis—Your Marriage and Family Living
Morton—The Home and Its Furnishings
Shank, Fitch, and Chapman—Guide to Modern Meals
Sturm and Grieser—Guide to Modern Clothing

Orientation

TATE—Home Economics As a Profession

By MILDRED THUROW TATE, Writer and Consultant, Blacksburg, Virginia.

432 *pp.*, 5⅝ *x* 8⅜, 50 *illus.* (1961)..$5.95*c*

This book presents a comprehensive view of the total field of home economics and acquaints the reader with the many professions and vocations open to home economists, the education and training necessary or suggested as preparation for these professions. The material is divided by fields according to professional areas where positions are available and each chapter contains an interest check list, enabling the student to evaluate her possible interest in the field. Also included is the history of home economics, the federal legislation which has provided help for the field, and the present-day professional organizations of home economists.

CONTENTS—Preface. Being in College. Being a Good Student. Being a Home Economist. Finding a Place in Home Economics. Home Economics Teaching. Home Economics Extension. Child Development and Family Relations. Clothing and Textiles. Foods and Nutrition. Home Management and Family Finance. Housing and Equipment. Business and Communications. Home Economics Research. International Service. Homemaking. After College—What? The Beginnings of Home Economics. Selected Home Economics Pioneers. Federal Legislation and Home Economics. National Associations of Home Economists. A Look to the Future.

BARCLAY AND CHAMPION—Teen Guide to Homemaking

By MARION S. BARCLAY, Supervisor of Homemaking Education, Hillsborough County Public Schools, Tampa, Florida, and FRANCES CHAMPION, State Supervisor, Home Economics Education, Department of Education, Tallahassee, Florida. *Amer. Home & Fam. Series.*

528 *pp.*, 8¼ *x* 8½, 1460 *illus.* (1961).$5.96*s*

Correlated Textfilm Series—8 filmstrips (color) .....each $8.50
set $60.00

This new book is a junior high school general textbook integrating all aspects of home economics for grades 7, 8, and 9. It is printed in three columns, with the basic text material in two columns and the third column providing detailed information and activities printed over a light tint block. Each of the 21 chapters contains these types of aids—learning activities, a safety check list, a matching quiz, and how-to-do-it techniques. The book presents four main sections—"You," dealing with the personal aspects of homemaking, such as school guidance, health and grooming, selection of clothes, and making friends; "Your Homemaking Department," dealing with all aspects of the homemaking department and the girl's work there; and "Your Family," covering all phases of preparing and serving meals in the home, family relations, health in the family, and child care; and "Recipes," (127) classified by groups according to the Daily Food Guide. *Teen Guide to Homemaking* is printed in two colors throughout, and has 40 4-color illustrations. The 1100 illustrations also include 400 black and white photographs, 210 black and white drawings and 450 sketches.

CONTENTS—Preface. Editor's Introduction. Part One. YOU. YOU As a Person. Getting Along at School. Your Health and Grooming. Selecting Your Food. Selecting Your Clothes. Caring for Your Clothes. Getting Ready to Sew. Making Your Clothes. Your Friendships. Entertaining and Being Entertained. Making the Most of Yourself. Getting the Most for Your Money. You and Your Room. Part Two. YOUR HOMEMAKING DEPARTMENT. Looking at the Home-

† *Textbook edition available at educational list price.*

making Department. Making the Homemaking Department More Attractive. Sharing in the Care of the Homemaking Department. Preparing and Serving Food in the Homemaking Department. Making Clothing in the Homemaking Department. The Laundering Center. Part Three, YOUR FAMILY. Planning Family Meals. Preparing Foods for Family Meals. Serving Family Meals. Your Place in the Family. Your Relations in the Family. Your Share in the Family. Understanding Children. Health in the Family. RECIPES. For Further Reading. Correlated List of Visual Aids.

Etiquette

BEERY—Manners Made Easy
By MARY BEERY. Second Edition.
319 *pp.*, 5½ *x* 8, 146 *illus.* (1954)..$5.25*j*†
Correlated Text-Film Filmstrip Series—8 filmstrips (color)—Teen Etiquette Series—each $8.50
set $60.00
6 Filmstrips (color)—Etiquette Series—*In Prep.*

A book on social usage, conduct, and poise development for teen-age boys and girls, offering practical, down-to-earth information on grooming, posture, health, clothes, speech, and correct behavior at home, school, and work, in public, and at all kinds of social affairs and correct usage in letter writing.
CONTENTS—Social Poise—It's Up to You. Manners at Home—Of First Importance. Behavior at School—You're One of Many. Posture and Health—They Both Affect Poise. Cleanliness—Can You Pass the Test? Grooming—The Key to Attractiveness. Your Clothes—Let Them Be Fitting. Conversation—It Does Matter. In Public—Conventions Are Important. Social Affairs—But Everything Doesn't Go. Dates and Dances—The High-lights of Youth. At the Table—Enjoy Your Food, But . . . Dining Out—An Art if Done Right. Social Correspondence—Your Letters Reflect You. Traveling—and Still Custom Rules. Spotlight Your Assets. Bibliography. List of Visual Aids.

Child Care

HURLOCK—Child Growth and Development
By ELIZABETH HURLOCK, University of Pennsylvania. *Amer. Home & Fam. Series.* Second Edition.
384 *pp.*, 5½ *x* 8, 220 *illus.* (1956)...$6.50*t*†
A bird's-eye view of the normal development of a child from conception to 6 years of age. All areas of development—physical, mental, and social—are discussed and common problems related to these areas are analyzed from the point of view of cause and effect. Specific suggestions are given, telling how to avoid these problems and how to deal with them in early stages. The Second Edition presents latest developments in child care, including a 36-page section on baby-sitting. Sections revised or rewritten present recent information on foods, clothing and its care, toys, and equipment. There are 50 new illustrations.
SECTION HEADINGS—How Life Begins. The Child's Growth. The Child's Problems and Habits. The Child as a Person.

Clothing and Textiles

BANE—Creative Sewing
Professional Touches for the Home Dressmaker
By ALLYNE BANE, Ohio University.
296 *pp.*, 6 *x* 9, *illus.* (1956).....$7.95*t*†
Designed to teach beginners the science of sewing and to aid them in developing their own reasoning abilities, so they can sew without assistance from anyone. Everything discussed is covered in great detail, complete with the little "touches" that are necessary for a professional look. Construction details which are better followed directly from the instruction sheet are omitted and are replaced by sections devoted to the effective use of the instruction sheet.
CONTENTS—Preface. Equipment for Clothing Construction. A Comparison of Commercial Patterns. Sizing of Patterns and Selection of Correct Size. A Discussion of the Pattern Envelope. Suggestions for Purchasing Fabric. Preparation of Fabric for Cutting. Preparation of Pattern for Cutting. A Discussion of Layouts and Cutting. Transferring Pattern Markings to Fabric. Stay-stitching. How to Read the Construction Side of the Instruction Sheet. A Discussion of Machine Stitching. A Discussion of Interfacing. Fabric Problems. Techniques of Pressing. Techniques of Fitting. Temporary and Permanent Hand Stitches. Seam Finishes. Gathering and Easing in Fullness. Treatment of Darts and Tucks. Shoulder Pads. Buttonholes. Principles of Collars and Cuffs. Bias Facings and Bindings. Finishing the Waistline Seam. Belts and Waistbands. Zippers and Plackets. Slashed Openings and Gussets. How to Set in a Regulation Sleeve. Miscellaneous. Hems. Index.

BANE—Tailoring
By ALLYNE BANE, Ohio University.
254 *pp.*, 6 *x* 9, 340 *illus.* (1958)....$6.50*c*
A book for the woman who is making her first suit or coat. This basic book on tailoring presupposes no previous knowledge of clothing construction, but at the same time, includes all the fine, advanced details of tailoring. Such basic construction details as zippers and hems are written and illustrated with as much detail as they would require in an elementary clothing book; and the custom touches of tailoring are included in a form just as easy to understand as the elementary details.
CONTENTS—Preface. Make It Important. Equipment and Supplies Needed. Selection and Preparation of Fabrics—Wool. Interfacing. Interlining. Selection, Measurement and Alteration of Pattern. The Muslin Test Copy (Including Fitting the Coat or Jacket). How to Cut and Mark Wool Fabric. Lining and Interfacing. Techniques of Pressing. Basic Principles of Tailoring. Tailoring Techniques for the Skirt (Including Fitting the Skirt). Tailoring Techniques for the Jacket or Coat. Linings and Interlinings.

WINGO—The Clothes You Buy and Make
By CAROLINE E. WINGO, Georgia Teachers College.
270 *pp.*, 6 x 9, 216 *illus.* (1953).....$5.75*c*
Offers guidance in budgeting expenditures, selecting suitable fabrics and becoming patterns in both home-made and ready-made clothes, planning a useful wardrobe, and selecting appropriate accessories. It includes clear illustrated step-by-step instructions and explanation of construction techniques.
CONTENTS—Part I. SELECTION. Importance of Clothes. Plan Your Spending. Choose the Colors You Should Wear. Decide Which Lines Are Best for You. Fabric Selection. Plan Costumes—Not Dresses. Buy Ready-mades Carefully. Part II. WEAR AND CARE. Let's Achieve Glamour. Your Hair and Make-up. Care and Storage. Part III. CONSTRUCTION. Let's Save Money. Pattern Selection and Alteration. Cutting Your Garment. Cutting Fabrics with Plaid, Stripe, Figure, and Nap. Have a Definite Plan of Work. Correct Fit without Help. Alteration and Fitting Problems. Seams—Selection and Steps in Construction. Methods of Producing Fullness. Neckline Finishes—Bindings and Facings. Collars and Cuffs. Zippers. Plackets. Fasteners. Waistlines. Sleeves. Pockets. Hems and Hemming Stitches. Tailoring—the Dressmaker Way. New Garments from Old. Selection and Care of Equipment. Bibliography. Index.

CARSON—How You Look and Dress
By BYRTA CARSON, Sidney Lanier High School, San Antonio, Texas. *Amer. Home & Fam. Series.* Third Edition.
398 *pp.*, 5½ *x* 8, 430 *illus.* (1960)..$6.50*j*†
Correlated Text-Film Filmstrips Series—
Set 1, four filmstrips 2 B & W....each $6.00
2 Color ....each $8.50
set $26.00

† *Textbook edition available at educational list price.*

Set 2, four filmstrips.....each $6.00
set $22.50

The new edition of this text, as refreshing and up-to-date as its new cover, includes all important aspects of the beginning clothing course—grooming, care, design, and selection of clothes—textiles, hand and machine sewing techniques, and the making of three simple garments. *How You Look and Dress* stresses fundamental principles, but uses today's styles as examples. It includes 68 new illustrations, showing current styles for boys and girls; *how-to* photographs; and many new drawings. It provides new information on pattern sizes to correspond with recent changes made by pattern companies, and on labeling, buying, family needs and income, how to be more attractive, and how to care for and select clothes. The 430 illustrations, including photographs and drawings, picture actual processes with accuracy. A 32-page color insert and a four-color tip-in of color wheel and value scale are included.

CONTENTS—Your Grooming. Care of Your Clothes. The Design of Your Clothes. The Color of Your Clothes. The Textiles of Your Clothes. The Right Clothes for You. Buying Your Clothes. Selecting Your Sewing Equipment. Using the Sewing Machine. Sewing by Hand. Taking Measurements and Altering Patterns. Selecting Material and Getting It Ready. Cutting and Fitting. Making a Skirt. Making a Blouse. Making a Dress. Remodeling Your Clothes. Bibliography. List of Visual Aids. Index.

PICKEN—The Singer Sewing Book

By MARY BROOKS PICKEN. Revised Edition.
275 *pp.*, 8 *x* 11, *illus.* (1953).....$3.95*td*†

The perfect book for both beginner and experienced sewer with information on every aspect of sewing from using patterns and operating a machine to binding buttonholes and mitering corners. Among the new material presented is information on the latest fabrics and tailoring methods, new and useful sewing projects, newly developed sewing machine techniques. There are over 1000 diagrams and illustrations plus six new color plates.

POTTER AND CORBMAN—Fiber to Fabric

By DR. M. D. POTTER, San Francisco State College, and BERNARD P. CORBMAN, Bronx Community College. Third Edition.
342 *pp.*, 6 *x* 9, *illus.* (1959).....$5.20*b*

Discusses and compares the differential qualities of all fibers, including natural, man-made, and synthetic. Adequate consideration is given to the weaving and finishing of fibers and fabrics. The text also provides information to assist the student in determining what the fabric is made of and how well it will serve his purpose through a discussion of the properties of fibers and their blends into fabrics.

STURM AND GRIESER—Guide to Modern Clothing

By MARY MARK STURM, Director, Bureau of Home Economics, Chicago Public Schools, and EDWINA H. GRIESER, Morgan Park High School, Chicago. *Amer. Home & Fam. Series.*
608 *pp.*, 7⅛ *x* 9¼, 938 *illus.* (1962)..$6.96*s*

A very complete text for the senior high school clothing course, covering appearance, textile fibers, selection and care of clothing, color and design, all aspects of clothing construction (with explicit drawings and photographs of equipment, pressing, patterns, and fitting); seven actual construction projects from an oven mitt to a tailored coat. The construction projects, based on the Unit Method of Construction, are unique in that they are accompanied by step-by-step photographs especially prepared and taken by the authors. Activities appear at the end of each of the first six chapters. Illustrations include four-color photographs, black-and-white photographs, black-and-white and two color drawings.

CONTENTS—PART ONE. YOU AND YOUR CLOTHING. Your Appearance and Grooming. The Color and Design of Your Clothes. The Fabrics You Wear. Planning Your Wardrobe. Buying Your Clothes. Caring for Your Clothes. PART TWO. YOUR CLOTHING CONSTRUCTION. The Unit Method of Construction. Equipment for Sewing. Sewing by Machine. Sewing by Hand. Pressing As You Sew. Handling Fabrics. Using the Pattern. Fitting Your Clothes. Oven Mitt. Simple Blouse. Skirts—Cotton Skirt. Advanced Skirt. Dresses —Jumper or Slipover Dress. Advanced Dresses. Shirt. Jacket. Coat. Index.

Foods and Nutrition

BOORMAN—Wild Plums in Brandy

By SYLVIA BOORMAN. Illustrated by R. T. LAMBERT.
180 *pp.*, 6 *x* 9 (1963).....$5.50*td**

A unique and beautifully illustrated book of wild foods cookery, written with great charm and skill. Within its covers is the scent of wild strawberries on a sunny hillside, mingled with the flavours of rose-hip jelly, may-apple preserves and elderberry wine. Here are remembered pleasures of gathering marsh marigolds on a mild spring day, hunting for new puffballs in a summery meadow, and fishing for trout in a sparkling northern stream. Here too, are recipes, some redolent of the kitchens of our childhood, others discovered in pioneer diaries, all of them as fascinating to read as to cook from.

* *Not available for sale in Canada.*

CARSON AND RAMEE—How You Plan and Prepare Meals

By BYRTA CARSON, Sidney Lanier High School, San Antonio, Texas, and MARUE CARSON RAMEE, formerly Poe Junior High School, San Antonio. *The American Home and Family Series.*
576 *pp.*, 6 *x* 9, 1000 *illus.* (1962)....$5.48*s*

This picture book with charts and captions containing basic information is designed for the foods courses beginning students. In each of the 29 chapters of Parts 1–3, there is a full page of activities for students. Part 4 contains a unique, illustrated "how-to-do-it" section, hints for using recipes, and 70 pages of tested recipes based on quantities for two, four, and six servings.

CONTENTS—PART ONE. YOUR MEALS—HOW YOU SERVE THEM. Let's Have a Party. Setting the Table. Mealtime Manners. Your Food Needs. Planning Your Meals. Breakfast. Lunch or Supper. Dinner. Special Meals. Meals in a Hurry. PART TWO. YOUR FOODS—HOW YOU BUY AND PREPARE THEM. Buying Your Foods. Fruits. Vegetables. Salads. Soups and Sauces. Sandwiches. Milk and Milk Products. Eggs. Meats. Poultry and Fish. Cereals. Breads. Desserts—Cookies, Cakes, Frostings, Candies. Desserts—Fruit, Custards, Puddings, Gelatin and Frozen Desserts, Pies. Beverages. PART THREE. YOUR MEALS IN THE LABORATORY. Your Equipment. Working Together. Managing Your Meals. Safety in the Kitchen. PART FOUR. YOUR RECIPES AND HOW TO USE THEM. How-to-do-it Section. Using Recipes. Recipes.

GOLDMANN—Planning and Serving Your Meals

By MARY E. GOLDMANN, The University of Texas. Second Edition.
265 *pp.*, 5½ *x* 8 (1959).....$5.25*c*

† *Textbook edition available at educational list price.*

A practical approach to the management involved in planning and serving nutritionally-adequate and aesthetically-satisfying meals on different income levels. The problem of marketing is treated thoroughly and comprehensively. Chapters on table appointments and table decorations stress their use in creating pleasing table settings. Types of table service for regular meals and special occasions are explained, and suggestions are given for the host, hostess, guests, and waitress. The book is well illustrated with pictures and drawings.

CONTENTS—Preface. Meal Management. Time and Energy Management. Marketing. Table Appointments. Table Setting. Serving. Forms of Service. Table Decorations. The Host and Hostess. The Waitress. Invitations. Special Occasions. Menus for Various Functions.

CROCKER—Betty Crocker's New Picture Cook Book

By BETTY CROCKER.

465 *pp.*, 7 3/16 *x* 9 1/4 *illus.* (1961)

Case-bound $4.95*t*

Ring-bound $5.95*t*†

Here is a brand-new edition of a famous cook book that has sold by the hundreds of thousands each year since publication in 1950. It contains nearly two thousand easy-to-follow recipes—hundreds of them new—profuse and charming sketches, "how-to" pictures, and vivid color photographs. For the preparation of well-balanced, attractive, and delicious meals, there are extensive chapters on meats and main dishes, a special menu-planning section, including everyday menus, menus for entertaining, holiday suggestions, and favorite menus of celebrities, plus timely information about freezing and the use of new convenience foods. There are special sections on every aspect of a cook's needs, and the book gives names for standard cuts of meat, telling how to buy and store them. *More than a thousand illustrations.*

SHANK, FITCH, AND CHAPMAN—Guide to Modern Meals

By DOROTHY E. SHANK, formerly Food and Nutrition Editor, Dr. NATALIE K. FITCH, formerly Professor of Home Economics, Teachers College, Columbia University, and PAULINE A. CHAPMAN, Abraham Lincoln High School, Philadelphia. *Amer. Home & Fam. Series.*

640 *pp.*, 7 1/8 *x* 9 1/4, 700 *illus.* (1962) .$5.96*s*

This basic text for senior high school presents the foods course from the standpoint of meal preparation and on a basis of planning and managing—but also includes 22 chapters on individual foods (their food value, cooking principles, buying, storing) keyed to the first 12 chapters. Seventy charts printed on tint blocks separate technical and directional material. There are 25 activities, most of the project type, at end of each main part of the text. Chapters 9, 10, 11 are designed as a laboratory manual with step-by-step instructions and drawings for preparing the three meals of the day. Three hundred tested recipes illustrate basic principles and provide experience, interest, and variety in cooking. These recipes are accompanied by a statement establishing a standard for evaluation for the products used in each recipe.

CONTENTS—Introduction. MEALTIME IN THE FAMILY. PART I. PLANNING YOUR MEALS. Planning Meals for the Family. Planning Meals for Health. Planning Meals for Variety and Attractiveness. PART II. MANAGING YOUR MEALS. Managing Meals to Save Time and Effort. Managing Meals to Get Your Money's Worth. Management in the Kitchen. PART III. PREPARING AND SERVING YOUR MEALS. Table Setting and Etiquette. Preparing Meals. Preparing and Serving Breakfast. Preparing and Serving Lunch or Supper. Preparing and Serving Dinner. Entertaining. PART IV. THE FOODS FOR YOUR MEALS. Fruits. Grains and Their Products. Milk. Eggs. Cheese. Fats and Oils. Meats. Poultry. Fish. Vegetables. Quick Breads. Yeast Breads. Cakes and Frostings. Cookies. Pastries. Beverages. Appetizers. Soups. Salads and Salad Dressings. Desserts. Candies. Food Preservation. PART V. THE RECIPES FOR YOUR MEALS. PART VI. FOOD VALUE TABLE. References. List of Visual Aids. Index.

STEAD AND WARREN—Low-fat Cookery

By EVELYN S. STEAD and GLORIA K. WARREN. Revised and Enlarged Edition.

275 *pp.*, 5 3/8 *x* 8 (1959).....$4.95*t*

*McG-H Paperbacks Ed.**

A large variety of tasty dishes for those who must restrict their fat intake. This book is designed primarily for those who wish to control or lose weight, but it also offers a preventive medical approach for arteriosclerosis, diabetes, and cardiac patients. Includes sample weekly menus and lists of fat contents of foods. New material in the revised edition includes almost 100 additional recipes, a section on how to modify your own recipes for lower fat content, and a discussion of how to dovetail low-fat cookery with sodium-restricted and unsaturated-oil diets. Written in clear, concise fashion, this book makes meal-planning and cooking easier for everyone on a diet.

** Available only through your local bookstore.*

ZUGIBE—Eat, Drink, and Lower Your Cholesterol

By FREDERICK T. ZUGIBE.

224 *pp.*, 5 3/8 *x* 8 (1963).....$4.95*td*

Heart disease is a great epidemic raging throughout the United States; it is the nation's number one killer of young men with families as well as older persons. Recent conclusive evidence now shows that a dietary factor, the consumption of foods which cause the deposition of cholesterol in the body's arteries, is a prime cause of heart attacks and strokes. In this timely book, Dr. Zugibe, explains how this killing substance is deposited in the body and the means by which excessive cholesterol may be avoided through substitution of polyunsaturated fats. The second portion of the book includes more than 175 delicious and tested recipes for low-cholesterol cooking, which reflect the author's impressive ability as creative chef as well as a leading scientist. Dr. Frederick T. Zugibe, the author of many scientific papers, is Director of the Histochemical Research Section of the Veterans Administration Hospital in Pittsburgh, and Assistant Research Professor of Anatomy at the University's School of Medicine.

Home Planning and Remodeling

BUSHEY—A Guide to Home Landscaping

By DONALD J. BUSHEY, Cornell University.

288 *pp.*, 6 *x* 9, *illus.* (1956).....$5.95*t*

Here is a comprehensive, practical guide to help homeowners to landscape their own property for maximum use and enjoyment at low cost. Written by an outstanding authority on home landscaping, the book discusses selecting a building site, locating the home on the property, grading, driveways and sidewalks, lawns, planting and care of woody ornamentals, tree plantings, foundation plantings, border plantings, and outdoor living rooms.

† Textbook edition available at educational list price.

CONTENTS—Preface. Step 1: Selecting a Site. Step 2: Locating the House on the Property. Step 3: Grading. Step 4: Driveways and Sidewalks. Step 5: Lawns. Step 6: Planting and Care of Woody Ornamentals. Step 7: Tree Plantings for Roadsides and Home Lawns. Step 8: Foundation Plantings about the House. Step 9: Border Plantings and Outdoor Living Rooms. Step 10: Recreation at Home. Step 11: Hobby Gardens. Plant Lists. Index.

KIRKPATRICK—The House of Your Dreams
By W. A. KIRKPATRICK.
250 *pp.*, 5⅜ *x* 9¾ (1958).....$5.95*t*
Here is everything the prospective home owner should know from the point of inspiration to buy or rebuild through the finished house. Includes information on specific financial considerations in home buying, what to look for in community services, restrictions, and building codes before buying property, deeds, title surveying, mortgages. Also includes plans and area division discussions, considerations on space saving, storage, convenience of working areas, light and air in bedrooms, insulation, types of heating, air-conditioning, sound control, color, more.

WHITMAN—First Aid for the Ailing House
By ROGER B. WHITMAN. Fifth Revised Edition.
456 *pp.*, 6 *x* 9 (1958).....$5.95*td*
Completely revised, rewritten, and reorganized to meet the needs of today's average home-owner who takes care of the repair and maintenance of his own house. Included are the most up-to-date methods and materials on: wallpapering and painting, electrical installations and repairs, heating, floor finishes, storm protection, construction of basement and attic rooms, moisture control, ventilation and air conditioning, masonry and tile work, furniture care, screen repairs, hardware, doors and windows, and so on. Illustrated with line drawings and halftones. *First Aid for the Ailing House* has in its previous editions become a standard handbook for the homeowner.

Interior Decoration

MORTON—The Home and Its Furnishings
By RUTH MORTON. Illustrator and Collaborator, ERNA KAROLYI, Pratt Institute. *American Home and Family Series.*
450 *pp.*, 6 *x* 9, 220 *illus.* (1953)....$5.96*s*
Correlated Text-Film Filmstrip Series—Six 35mm silent color filmstrips.....each $8.50
set $45.00
All discussions and examples are based on the idea that furnishings should be functional, beautiful, individual, and personally satisfying. The book begins with a girl's personal and natural interests (color, dress, her own room and possessions).
CONTENTS—Section I. Color in the Home. Color in Your World. Color as You Use It. Color in Your Own Room. Color in an Apartment. Color in a House. Section II. Furniture in the Home. Furniture Selection. Furniture in Your Own Room. Furniture Arrangement. Furniture Styles. Section III. Fabrics in the Home. Beauty Out of Whole Cloth. Fabrics That Fit Your Room. Floor Coverings. Section IV. Accessories in the Home. Accessories for Use and Beauty. Accessories with Personal Significance. Accessories You Can Make for Your Room. Section V. Management of the Home. Saving Time and Energy. Upkeep of the Home. Management of Money. Section VI. Plans for the Home. Selecting a Place to Live. Buying or Building a Home. Glossary. Bibliographies. List of Visual Aids.

Medicine

UCLA MEDICAL EXTENSION SERIES
(UCLA Med. Exten. Series)

Barker—Surgical Treatment of Peripheral Vascular Disease
Brown and Pearson—Clinical Uses of Adrenal Steroids
Mellinkoff—The Differential Diagnosis of Abdominal Pain
Sharpe—Management of Medical Emergencies
Sternberg and Newcomer—Modern Dermatologic Therapy
Tallman—Treatment of Emotional Problems in Office Practice
Tyler—Sterility: The Practical Management of the Infertile Couple

Medical Dictionaries

BLAKISTON'S NEW GOULD MEDICAL DICTIONARY
Edited by NORMAND L. HOERR, M.D., and ARTHUR OSOL, Ph.D. With the cooperation of an Editorial Board and 88 Contributing Editors. Second Edition.
1463 *pp.*, 6⅝ *x* 9¾, *Thumb-indexed*, 252 *illus.* (129 *in color*) (1956).
With Hard Cover $12.50*mL*
With Flexible Cover $12.50*m*
This edition of the famous Gould Medical Dictionary with 12,000 new terms and 8,000 revised definitions, brings you more terms from today's live medical language than any other dictionary. The editors have made this the most thorough and accurate dictionary that a mighty editorial effort can offer, by having each proposed new term screened for importance by at least one of the specialists on the board of Contributing Editors. Specialists wrote each definition; then Dr. Hoerr and Dr. Osol edited each definition to assure a uniformly clear and concise style. Important additions include new terms from chest surgery, psychiatry, nuclear science, cancer, dentistry, biochemistry, cardiology, and aviation medicine.

BLAKISTON'S ILLUSTRATED POCKET MEDICAL DICTIONARY
Edited by NORMAND L. HOERR, M.D., School of Medicine, Western Reserve University; and ARTHUR OSOL, Ph.D., Philadelphia College of Pharmacy and Science. Second Edition.
985 *pp.*, 4½ *x* 6¾, *illus. (17 in color)* (1960).....Plain Edition $5.75*t*†
Thumb-indexed Edition $6.50*t*†
The publication of the second edition of BLAKISTON'S ILLUSTRATED POCKET MEDICAL DICTIONARY marks the seventieth anniversary of the medical dictionaries initiated through the extraordinary efforts of Dr. George M. Gould. Paramount in considering what to

† *Textbook edition available at educational*

include in the second edition were the needs of the people who use this dictionary and for whom it has proved a valuable tool. This new edition gives particular attention to clearing up cross references, and new terms have been added in the fields of psychopharmacology, radiation biology, and similar modern fields. Complete informative definitions of drugs in current use make the work especially useful to nurses and medical secretaries. Among the outstanding features of this dictionary are the tables and illustrations (17 in color). There is a new Table of Radioactive and Other Isotopes. The Table of Elements has been brought up to date. Other charts and tables have been revised. All terms used in the definitions, that have specific meanings in medicine and allied fields, are defined in this dictionary. The editors have combed NEW AND NONOFFICIAL DRUGS, the U.S. PHARMACOPEIA, and DRUGS IN CURRENT USE as criteria for determining whether or not a drug should be included. As a further aid to the student and technician, the list of syndromes has been materially increased in line with suggestions made by many educators and practitioners.

CONTENTS—Index of Illustrative Plates. Preface. Abbreviations Used in Definitions. Transliterations from the Greek. Explanatory Notes—Vocabulary Entries, Syllabification and Pronunciation, Labels, Abbreviations. Cross References, Variant Forms, Chemical and Pharmaceutical Terms, Biographic Entries. Key to Pronunciation. Vocabulary. Appendix—Tables. Illustrations.

Allergy

PRIGAL—Fundamentals of Modern Allergy

Edited by SAMUEL J. PRIGAL, M.D., F.A.C.P., New York Medical College.

690 *pp.*, 6 *x* 9, 125 *illus.* (1960) $18.50*m*

This collaborative work, containing 61 chapters and written by 56 contributors, evolved from a series of articles that appeared in the New York State Journal of Medicine under the same title. Carefully edited and balanced by Dr. Prigal, this work has been developed into a well-rounded book which should prove to be an indispensable reference for medical students, interns, residents, allergists, dermatologists, pediatricians, and general practitioners. The volume is sponsored by the New York Allergy Society, of which most of the contributing authors are members.

CONTENTS—Mechanisms and Causal Factors in Allergy. Texts, Procedures, and Technics for Diagnosis of Allergic Conditions. Manifestations and Forms of Allergy. Allergy in Childhood and Old Age. General Treatment and Prophylaxis in Allergy.

Anesthesiology

NEW YORK ACADEMY OF MEDICINE—Uptake and Distribution of Anesthetic Agents

Sponsored by New York Academy of Medicine. Edited by E. M. PAPPER, M.D., Columbia University College of Physicians and Surgeons, and RICHARD J. KITZ, M.D., Columbia University College of Physicians and Surgeons.

313 *pp.*, 6 *x* 9, 121 *illus.* (1963) . . . $15.00*m*

The material in this work is based on a conference held at the College of Physicians and Surgeons in April 1962 which brought together leading representatives in Anesthesia, Pharmacology, and Physiology Departments located all over the world. This work contains information never before assembled in one book, such as physicoclinical factors, lung factors, circulation factors, the role of biotransformation, and the uptake of specific anesthetic drugs by the human body.

Cardiology

FRIEDMAN—Outline of Electrocardiography

By H. HAROLD FRIEDMAN, M.D., University of Colorado Medical Center.

300 *pp.*, 6⅛ *x* 8⅛, 196 *illus.* (1963) . $5.95*m*

Set forth in outline form are the principles of electrocardiography and the fundamentals of electrocardiographic diagnosis. The author discusses all important conditions, both normal and abnormal, and illustrates his data with many line drawings as well as electrocardiograms. A foundation is provided with chapters on elementary electrocardiographic theory, basic approaches to electrocardiography, theoretical concepts, leads, and both conventional and spatial vector approaches to electrocardiography. Then follows discussion of such subjects as the electrical position of the heart, abnormalities of the T-wave and S-T segment, and diagnosis of specific heart disorders.

CONTENTS—Electrophysiology. Anatomy and Physiology of the Conduction System of the Heart. Basic Considerations in Electrocardiography. The Normal Electrocardiogram. The Electrocardiographic (Electrical) Position of the Heart. Abnormalities of the T Wave or Vector. Abnormalities of S-T Segment or Vector. Atrial Abnormalities. Ventricular Hypertrophy or Enlargement. Ventricular Conduction Defects. The Preexcitation (Wolff-Parkinson-White) Syndrome. Myocardial Infarction. Transient Myocardial Ischemia and Injury. Pericarditis. Effect of Certain Drugs on the Electrocardiogram. Effect of Electrolyte Abnormalities on the Electrocardiogram. Cor Pulmonale. Right Axis Deviation. Left Axis Deviation. Miscellaneous Syndromes. The Normal Electrocardiogram in Infants and Children. The Electrocardiogram in Congenital Heart Disease. The Arrhythmias and Conduction Defects. Tabular Outline of the Differential Diagnosis of Various Electrocardiographic Abnormalities. Bibliography. Appendix: Tables. Index.

THE GLOVER CLINIC—The Practical Evaluation of Surgical Heart Disease

Written and compiled by ROBERT G. TROUT, M.D. Edited by ROBERT P. GLOVER, M.D.

132 *pp.* 8½ *x* 11, *illus.* (1959) $10.00*m*

This book will be an invaluable assistant to the practitioner in evaluating patients with obvious cardiac problems. The work presents diagnostic characteristics of various cardiac conditions which may be considered for surgical treatment. The inclusion of a 45 r.p.m. record of diagnostic heart murmurs, enveloped in the back cover of the book, represents a new approach which should prove itself helpful and interesting. The problems inherent in diagnostic cardiology are both basically simple and vastly complex. This book is by no means an attempt to cover exhaustively this or any aspect of the over-all problem. It is a simplification of the subject, relying purely on fundamentals which have proven themselves by extensive clinical application, to more adequately serve its intended purpose as a guide and general reference.

CONTENTS—Part I—BASIC CONSIDERATIONS: Simplified Physiology. Radiographic Interpretation. Electrocardiographic Interpretation. Part 2—CLINICAL STUDIES: Congenital Conditions—Patent Ductus Arteriosus. Coarctation of the Aorta. Vascular Rings. Pulmonary Stenosis with Intact Septum. Internal Septal Defect. Interventricular Septal Defect. Tetralogy of Fallot. Transposition of the Great Vessels. Acquired Conditions—Mitral Stenosis. Mitral Insufficiency. Aortic Stenosis. Aortic Insufficiency. Coronary Artery Insufficiency. Cardiac Catheterization. Angiocardiography. Part 3—SPECIAL DIAGNOSTIC TECHNIQUES: Part 4—BIBLIOGRAPHY: General. Selected. Index.

GRANT—Clinical Electrocardiography
The Spatial Vector Approach
By ROBERT P. GRANT, M.D., The National Heart Institute, National Institutes of Health, Bethesda, Maryland.
225 *pp.*, 6 *x* 9, 95 *illus.* (1957) $8.50*m*

A basic book which discusses all aspects of clinical electrocardiography. Its unique feature is the clear, understandable way in which the vector method is explained, emphasizing the simplicity of this method and how it makes clinical interpretation easier. The fact that the vector method simplifies clinical interpretation is perhaps best illustrated by the pages at the end of Chapter 6, titled "Summary of QRS Abnormalities," which contain, in vector notation, the entire lexicon of all that is known about QRS complex abnormalities. To present this same material by conventional pattern methods would require volumes. While many other books use the vector method to describe how the normal deflection is written, Dr. Grant carries this approach into actual clinical use in the interpretation of the abnormal tracing. Also, deformities of the QRS complex produced by myocardial infarction are comprehensively covered. The entire book is extremely practical because theory is held to a minimum and only the necessary conceptual and biophysical material required to make clinical applications understandable is included. Moreover, the mathematical material presented is so simple and elementary that no reader should have trouble understanding it.
CONTENTS—Preface. I. Theory and Methods in Vector Electrocardiography. II. The Normal Electrocardiogram. III. The Abnormal Electrocardiogram. IV. Abnormalities of the T and S-T Vectors. V. Ventricular Conduction Defects. VI. The Vector Abnormalities of Myocardial Infarction. VII. Arrhythmias and Tachycardias. VIII. The Electrocardiogram in Childhood and in Congenital Heart Disease. References. Index.

HOFFMAN AND CRANEFIELD—Electrophysiology of the Heart
By BRIAN F. HOFFMAN, M.D. and PAUL F. CRANEFIELD, Ph.D., both State University of New York Medical School.
323 *pp.*, 5⅝ *x* 8⅜, 120 *illus.* (1960) . $13.50*m*

A comprehensive work on the electrophysiology of the heart, this book summarizes the important information available and adds much new material in this very interesting and rapidly developing field. The electrocardiographic record of the electrical activity of the whole heart depends upon the shape of the action potentials of the various cells of the heart and upon the sequence of activation of those cells. The development of the method of microelectrode recording has made possible a new degree of precision in the knowledge of the action potentials of single cardiac cells. The technique of single-cell recording is only ten years old, but a great deal of work has been done on the heart in that time. This book summarizes the results of that work and relates them to clinical techniques and findings. Also discussed briefly are the results obtained by new methods of studying the sequence of activation of the heart. Beginning with a chapter on recording techniques, the authors consider progressive excitation of the heart and conduction of nerve impulses, the chambers of the heart and their relation to excitability, the sinoatrial node and the atrioventricular node. Well illustrated with actual records from the clinic and laboratory, this is the first work to comprehensively survey this important field.
CONTENTS—1. Recording Techniques. 2. Excitation and Conduction. 3. The Atrium. 4. The Ventricle. 5. The Sinoatrial Node. 6. The Atrioventricular Node. 7. The Purkinje Fibers. 8. Excitability. 9. General Electrophysiology of the Heart.

HURST AND WENGER—Electrocardiographic Interpretation
Edited by J. WILLIS HURST, M.D., Emory Medical School, Atlanta, Georgia; and NANETTE WENGER, M.D., Emory Medical School. (Coauthors: ENRIQUE CABRERA, M.D.; E. HARVEY ESTES, M.D.; and HERMAN K. HELLERSTEIN, M.D.)
303 *pp.*, 6 *x* 9, 60 *illus.* (1963) $12.95*m*

The first work to approach the subject of electrocardiographic interpretation in such a unique manner, ELECTROCARDIOGRAPHY brings together the interpretations of eighty cases by five outstanding cardiologists prior to the clinical history of the patient being known. After these men give their interpretation, the case history is given and is followed by the cardiologists' discussion of their interpretation in light of this information. This is the first time this technique has been applied to book form, and affords all interested the opportunity to compare their interpretations with these experts.

KAPLAN AND ROBINSON—Congenital Heart Disease
An Illustrated Diagnostic Approach
By HENRY S. KAPLAN, M.D., and SAUL JOEL ROBINSON, M.D., Stanford University School of Medicine.
275 *pp.*, 8½ *x* 11, 181 *illus.* (1954) $13.50*m*

This working handbook presents a brief, direct, and well-illustrated description of the more common congenital cardiac defects. A study method for each defect is given which utilizes three ordinarily available tools: the clinical history and physical examination; the unipolar electrocardiogram; and the X-ray and fluoroscopic examination of the heart.
CONTENTS—ORIENTATION: Clinical Evaluation: History and Presenting Manifestations. General Laboratory Procedures. The Conventional Roentgen Examination. Electrocardiographic Diagnosis of Chamber Hypertrophy in Congenital Heart Disease. Special Diagnostic Procedures. Treatment. ATLAS: Cyanotic Congenital Defects. Noncyanotic Congenital Defects. References.

CARDIOLOGY: An Encyclopedia of the Cardiovascular System
Sponsored by the American College of Cardiology. Edited by ALDO A. LUISADA, M.D. Foreword by Ashton Graybiel, M.D.
2998 *pp.*, 7¼ *x* 9⅞, 1000 *illus.* (1959)
4 Volume Set not sold separately . . . $100.00*m*

This four-volume undertaking, encyclopedic in scope and coverage, is at once a landmark in clinical cardiology. It is an authoritative and complete reference work covering all the available knowledge of the heart and circulatory system, sponsored by the AMERICAN COLLEGE OF CARDIOLOGY, and authored by hundreds of celebrated specialists chosen from all parts of the world. These four volumes will offer physicians a collection of information never before assembled on the cardiovascular system. This work contains information abstracted from an immense mass of medical literature which could not be reviewed effectively by an individual. The organization of this material is based on a logical framework which constitutes a resynthesis of the important elements in the field of cardiology.

The work of the authors and contributors

has been carefully edited by Dr. Aldo A. Luisada and his group of over 25 outstanding cardiologists to the same general style and format to provide better integration and continuity to the entire work. Every cardiovascular area is covered, including aspects frequently overlooked, since they belong to allied or related fields such as anatomy, physiology, radiobiology, pathology, pharmacology, roentgenology, and others.

CONTENTS BY VOLUME—Volume 1. Normal Heart and Vessels. Volume 2. Methods. Volume 3. Clinical Cardiology. Volume 4. Clinical Cardiology—Therapy.

CARDIOLOGY: An Encyclopedia of the Cardiovascular System

Volume V: Related Specialty Fields

Sponsored by The American College of Cardiology. Edited by ALDO A. LUISADA, M.D. Foreword by Ashton A. Graybiel, M.D.

546 *pp.*, 7¼ *x* 9⅞, 167 *illus.* (1961) . $27.50*m*

The fifth volume of this monumental work on cardiology, written by international authorities, carries on the tradition of the first four volumes. Included in this fifth volume of CARDIOLOGY is a most complete section on the pharmacology of cardiology, cardiovascular problems in pediatrics and geriatrics, medicolegal aspects of heart disease (including insurability and employment), and the effect of environment and physical exertion on the cardiovascular system. This fifth volume, sold separately from the first four volumes, is bound in the same looseleaf style as the previous four and matches them in format and other details.

CONTENTS—Part 21. Pharmacology of the Cardiovascular System. Part 22. Obstetric and Surgical Cardiovascular Problems. Part 23. Cardiovascular Problems in Pediatrics and Geriatrics. Part 24. The Cardiovascular Patient and Society. Part 25. Effect of Environment and Physical Exertion on the Cardiovascular System. Part 26. History and Progress of Cardiology. Part 27. The Cardiovascular System of Animals. BIBLIOGRAPHY.

CARDIOLOGY: An Encyclopedia of the Cardiovascular System

Supplement #1

Edited by ALDO A. LUISADA, M.D., Professor of Cardiovascular Research and Professor of Medicine, Chicago Medical School; Attending Cardiologist, Mt. Sinai Hospital, Chicago.

896 *pp.*, 7¼ *x* 9⅞, 293 *illus.* (1962) $35.00*m*

Intended to bring up to date many of the sections in the five-volume set, CARDIOLOGY, Supplement #1 not only includes substantial revisions of fourteen existing chapters, but also twenty-nine completely new chapters on previously uncovered areas. Most of the additions are in the first two volumes, including sections on Vasculature of the Neck and Head, The Bronchial and Esophageal Arteries, Increased Capillary Permeability, and Regulation on Blood Volumes, among others.

Completely revised chapters include Azygos and Lumbar System of Veins in Volume I; the Kinetocardiogram-Ultra Low Frequency Precordial Movements in Volume II; and the Clinical Aspects of Hypertension in Volume IV. The set of loose-leaf pages which make up Supplement #1 are punched to fit the post binder of the five-volume CARDIOLOGY set and wrapped to enable the easy insertion of the supplemental material into the post bound volumes.

LUISADA AND ROSA—Treatment of Cardiovascular Emergencies

By ALDO A. LUISADA, M.D. and LESLIE M. ROSA, M.D.

122 *pp.*, 4⅛ *x* 6½ (1960) . . . . *Cloth* $4.95*m*
Soft-cover $3.50*m*

A practical, short, pocket-sized manual of immediate use to all practitioners, interns and residents, this work simply and concisely covers the diagnosis and treatment of cardiovascular emergencies. Clearly described are the immediate procedures and drugs to be used in cardiovascular and respiratory emergencies, and those to be followed in the early subsequent treatment of the attack. The work covers emergencies involving the heart itself (coronary attacks and arrhythmias), the large arteries (embolisms and thromboses) and peripheral vessels (cerebrovascular attacks and peripheral embolisms and thromboses). In addition the authors have included episodes of acute respiratory embarrassment (paroxysmal dyspnea, pulmonary edema) as well as cardiovascular episodes such as acute hypertension, acute hypotension, and shock. Each chapter consists of a brief description of the clinical entity and a brief description of the differential diagnosis before the detailed discussion of the treatment. The inclusion of a brief summary at the beginning of each chapter enables the physician to quickly check what he should do in an individual case.

CONTENTS—1. Coronary Attacks. 2. Attacks of Respiratory Embarrassment. 3. Acute Heart Failure. 4. Hypertensive Crises. 5. Syncope—Shock—Vasomotor Collapse. 6. Pulmonary or Systemic Thromboembolic Phenomena. 7. Cerebrovascular Attacks. 8. Dissecting Aneurysm of the Aorta. 9. Disturbances of Rate and Rhythm. Appendix: Emergency Drugs to Be Carried by the Physician.

LUISADA—Development and Structure of the Cardiovascular System

An American College of Cardiology Monograph

Edited by ALDO A. LUISADA, M.D., Chicago Medical School.

246 *pp.*, 6⅞ *x* 10, 100 *illus.* (1961) . $10.95*m*

This volume is a comprehensive presentation of the anatomy of the cardiovascular system, with a chapter on the comparative anatomy of other animals. The interest shown by students of anatomy in Part I of the five-volume CARDIOLOGY: An Encyclopedia of the Cardiovascular System prompted the publishers of this work to separate the chapters dealing with the description of the cardiovascular system from a structural viewpoint, and to publish them in the form of a monograph. Written by eleven outstanding authorities, this work considers both gross and microscopic anatomy and includes the innervation of the system.

CONTENTS—Embryology of the Heart and Major Vessels. 2. The Fetal Circulation: Changes at Birth. 3. Introduction to Anatomic Descriptions. 4. Anatomy of the Heart. 5. Histology of the Heart. 6. Arteries, Veins, and Lymphatic Vessels of the Heart. 7. The Aortic Arch and Its Branches. 8. The Abdominal Aorta and Its Branches. 9. The Pulmonary Artery and Its Branches. 10. The Azygos and the Lumbar System of Veins. 11. The Hepatic Vessels. The Renal Vessels. 12. The Structures of Blood Vessels. 13. The Structural Basis of the Microcirculation. 14. The Innervation of the Heart and Vessels. 15. The Heart and the Large Vessels in Vertebrates.

LUISADA—Cardiovascular Functions

Edited by ALDO A. LUISADA, M.D.

378 *pp.*, 6⅞ *x* 10, 118 *illus.* $12.00*m*

This book is a monograph of Part 2, Volume I of the world-famous five-volume CAR-

DIOLOGY: An Encyclopedia of the Cardiovascular System, sponsored by The American College of Cardiology. In addition to the material on cardiovascular functions from Part 2, this work also contains new chapters on the following subjects: Increased Capillary Permeability, Regulation of Blood Volume, Functions of the Pericardium, and Sympathetic Control of the Heart. The original chapter, Dietary Requirements, has been revised in order to keep this material completely up to date. Written by forty-three outstanding contributors with each contribution carefully edited by Dr. Luisada, *Cardiovascular Functions* presents a thorough physiologic picture of the cardiovascular system and is more complete than many textbooks of physiology dealing with the heart and blood vessels.

CONTENTS—1. Physiology of Muscular Contraction. 2. Metabolism of the Heart. 3. Hemodynamic Determinants of Myocardial Oxygen Consumption. 4. Origin of the Heart Beat. 5. The Physiologic Basis of the Electrocardiogram. 6. Physical Units and Concepts Useful in Cardiovascular Research. 7. The Laws of the Isolated Heart. 8. The Heart as a Pump. 9. Cardiac Output, Stroke Volume, and Stroke Work. 10. The Heart Sounds. 11. The Vascular System. 12. Cardiovascular and Pulmonary Reflexes. 13. Arterial Pressure and Its Control. 14. The Arterial Pulse. 15. Physical Principles of Liquid Flow. 16. The Dynamic Phenomena of the Large Vessels and the Mechanism of Poststenotic Dilation. 17. Physiology of the Small Vessels. 18. Exchange of Materials across the Capillary Wall. 19. Gradients of Pressure in the Cardiovascular System. 20. The Venous System. 21. Blood Flow Through Muscle and Skin in Man. 22. Circulation of the Gastrointestinal Tract; Splenic and Hepatic Circulations. 23. Coronary Circulation. 24. Cerebral Circulation. 25. Pulmonary Circulation. 26. Respiratory Influences on Cardiovascular Function. 27. Renal Circulation. 28. Clotting: A Theory of the Hemostatic Process in Relation to Thromboembolic Phenomena. 29. Cardiovascular Effects of Hormones, Neurohormones, and Vasoactive Agents. 30. The Emotions, the Hypothalamus, and the Cardiovascular Reactions. 31. Dietary Requirements of the Human Body. 32. Increased Capillary Permeability. 33. The Regulation of Blood Volume. 34. Functions of the Pericardium. 35. Sympathetic Control of the Heart.

WHITE, RUSK, LEE, AND WILLIAMS—Rehabilitation of the Cardiovascular Patient

By PAUL DUDLEY WHITE, M.D., Massachusetts General Hospital, Boston, HOWARD A. RUSK, M.D., New York University-Bellevue Medical Center, New York, PHILIP R. LEE, M.D., Stanford University Medical School, Palo Alto, BRYAN WILLIAMS, M.D., University of Texas, Dallas.

176 *pp.*, 5⅜ *x* 8, 31 *illus.* (1958) . . . $7.00*m*

The authors state their views on rehabilitation in the preface as follows, "In this book the authors use the term rehabilitation in its broad context to designate all those services which the individual with a cardiovascular disability needs in order to live as rich, satisfying, and productive a life as possible. Rehabilitation, in this context, is the responsibility of every physician. This book, therefore, is not directed to any particular specialty of medicine but rather to all practitioners who bear the responsibility for all management of patients with cardiovascular disabilities." Designed as a practical manual for all physicians, this work gives specific procedures for the rehabilitation of patients with cerebrovascular accidents, rheumatic fever, congenital heart disease, hypertension, hypertensive heart disease, and coronary artery disease. Emphasis is given to the social, emotional, and vocational aspects of management as well as the physiological.

CONTENTS—1. Historical Development. 2. Contemporary Significance. 3. Cerebral Vascular Disease. 4. Cardiac Disease. 5. Rheumatic Fever and Rheumatic Heart Disease. 6. Congenital Heart Disease. 7. Hypertension or Hypertensive Heart Disease. 8. Coronary Heart Disease.

Dermatology

PECK AND PALITZ—Practical Dermatology

By SAMUEL M. PECK, B.S., M.D., Mount Sinai Hospital; Columbia University; American Academy of Compensation Medicine, and LAURENCE L. PALITZ, M.D., Ph.D., Long Island Jewish Hospital; Mount Sinai Hospital; Montefiore Hospital, New York. Published by Landsberger Medical Books, Inc., distributed solely by The Blakiston Division, McGraw-Hill Book Co., Inc. *Handbooks for the General Practitioner.*

380 *pp.*, 5½ *x* 8¼, 122 *illus.* (1957) . . $8.00*m*

This volume sets forth clearly and concisely, as the authors state in their preface, "a survey of dermatologic disorders as they are commonly met with in daily practice." The authors then proceed to a thorough and complete discussion of each disease—its etiology, pathologic-physiology, and therapy.

STERNBERG—The Evaluation of Therapeutic Agents and Cosmetics

By THOMAS H. STERNBERG, M.D., UCLA School of Medicine; and VICTOR D. NEWCOMER, M.D., UCLA School of Medicine.

In Press

This is a source book which delineates the problems confronting the pharmaceutical, proprietary drug and cosmetics industries, as well as physicians in medical centers and hospitals, in testing, evaluating and marketing new drugs. Some of the problems described relate to the obligations of the industry to the public with respect to type and extent of preliminary testing, a description of adequate toxicity and clinical evaluation studies to satisfy not only laws and regulations but to afford maximum protection to the public, and all of the wide variety of medicinal products for general use.

STERNBERG AND NEWCOMER—Modern Dermatologic Therapy

By THOMAS H. STERNBERG, M.D., and VICTOR D. NEWCOMER, M.D.

510 *pp.*, 5⅜ *x* 8, 32 *illus.* (1959) . . . $11.00*m*

Because of rapid advances in the field of dermatology and closely allied specialties, it has become virtually impossible for the average practicing physician to keep informed about the latest trends in therapy and the proper evaluation of the therapy administrated. This book is not intended to include all facets of dermatologic interest but rather to summarize therapy in particular areas where rapid changes have occurred. The selection of contributors for this book was made on the basis of training and experience to provide authoritative coverage of the specific fields presented. Emphasis is placed on practical management and therapy presented in simple, straightforward detail.

CONTENTS—1. Management of Systemic Lupus Erythematosus. 2. Discoid (Cutaneous) Lupus Erythematosus. 3. Generalized Scleroderma (Progressive Systemic Sclerosis). 4. Dermatomyositis. 5. Polymorphous Light Eruptions. 6. Hyperpigmentation and Depigmentation. 7. Emotional Factors in Dermatologic Disorders. 8. Psychiatric Treatment of Psychocutaneous Disorders. 9. Treatment of Psychocutaneous Disorders by the Dermatologist. 10. Seborrheic Dermatitis. 11. Psoriasis. 12. Acne Vulgaris. 13. Miliaria. 14. Eczematous Eruptions. 15. Occupational Dermatoses. 16. Atopic Der-

matitis. 17. Pruritis. 18. Acute and Chronic Urticaria. 19. Pemphigus. 20. Cutaneous Infections Caused by Staphylococci and Streptococci. 21. Superficial Fungous Infections. 22. Systemic Mycoses. 23. Common Viral Diseases of the Skin. 24. Syndromes Related to Bacteria Allergy and Hypersensitivity. 25. Steroids in Dermatology. 26. Antibiotics Other Than Penicillin in the Treatment of Syphilis.

Endocrinology

HURXTHAL—Practical Endocrinology

By LEWIS M. HURXTHAL, M.D., Lahey Clinic; in cooperation with A. SEYMOUR PARKER, M.D., Lahey Clinic, and HIRSH SULKOWITCH, M.D., Lahey Foundation. *Handbooks for the General Practitioner Series.*

318 *pp.*, 5¼ *x* 8¼, 17 *illus.* (1955)..$8.00*m*

This work presents general considerations of normal growth and development by discussing each of the endocrine glands and describing the various disorders of each gland along with methods of diagnosis and treatment. It discusses hirsutism and gynecomastia, presents a review of sterility, and offers a chapter on the therapeutic uses of steroid compounds, corticotropin, and chorionic gonadotropin.

CONTENTS—Endocrine Disorders of Infancy and Childhood. Disorders of the Pituitary Gland in Adults. Diseases of the Thyroid Gland. Parathyroid Glands. Diseases of the Adrenal Glands. Hyperinsulinism. Gonads. Gynecomastia. Hirsutism and Procedures for Investigation. Steroid and Other Hormones in General Practice. Office Laboratory Tests. Index.

General Medicine and Therapeutics

AMERICAN MEDICAL ASSOCIATION—Standard Nomenclature of Diseases and Operations

The American Medical Association
Edited by EDWARD T. THOMPSON, M.D., F.A.C.H.A., and ADALINE C. HAYDEN, C.R.L. Associate Editor. Fifth Edition.

964 *pp.*, 5⅝ *x* 8⅜ (1961).....$10.50*m*

This basic reference volume for all medical record libraries, hospital staffs, and physicians lists the American Medical Association's accepted terminology for clinical conditions from which patients suffer. Recognized throughout the world as an authoritative disease nomenclature, this work is designed for use in diagnostic statements by clinicians as well as indexing and classification of these conditions in medical record libraries. A growing body of scientific knowledge of recent years has required many changes in the scientific material presented. In this revision changes have included a complete revision of the Neurology, Ophthalmology and Obstetric and Newborn sections. The topography and surgery sections have been considerably expanded.

CONTENTS—Preface. Introduction. Instructions to Medical Record Librarians. Schema of Classification. Nomenclature of Diseases. Nondiagnostic Terms for Hospital Records. Supplementary Terms. Operations—Introduction. Classification of Operative Procedures. Nomenclature of Operations. Anesthesia Section. Disease Index. Operations Index. Appendix.

THOMPSON AND HAYDEN—AMA Handbook on Standard Nomenclature of Diseases and Operations

Edited by EDWARD T. THOMPSON, M.D., F.A.C.H.A., and ADALINE C. HAYDEN, C.R.L.

71 *pp.*, 4⅜ *x* 6⅜ (1959).....$1.50*m*

This book is a valuable reference guide for current medical terminology. Because of the rapid growth of medical science during the past century, it is impossible for any one physician to know the acceptable terminology for the entire field. In order that the medical profession might have the benefit of authoritative and current terminology on all subjects, this handbook has been prepared for the American Medical Association. Unacceptable terminology has been listed and commented on in order to provide a comprehensive understanding of the importance of correct usage of terms for diagnostic purposes and medical communications.

GROLLMAN—The Functional Pathology of Disease. 2nd Ed.

The Physiologic Basis of Clinical Medicine
Edited by ARTHUR GROLLMAN, M.D., Ph.D., University of Texas Southwestern Medical School.

928 *pp.*, 6 *x* 9, 143 *illus.* (1963)....$15.00*m*

Even more comprehensive in its coverage, this new edition of *Clinical Physiology* includes six important additional chapters: Diabetes Mellitus, Acute Renal Failure, The Joints, The Central Nervous System. The Hypothalamus and its Disorders, and Autoimmunity and Autoimmune Diseases. Many other chapters have been expanded and brought up to date. Clinical medicine is surveyed by systems, such as cardiovascular, digestive, and nervous, as well as from the more general viewpoint. Then the theoretical background is applied to problems of diagnosis and treatment of disease.

CONTENTS—Contributors. Preface. General Metabolic Considerations. Carbohydrate Metabolism. Lipid Metabolism. Protein Metabolism. Vitamins in Health and Disease. Water and Electrolyte Metabolism. Metabolic Diseases. Cardiovascular Dynamics: Basic and Applied Aspects. Physiologic Aspects of Clinical Electrocardiography. Congestive Heart Failure. Alterations in Blood Pressure with Particular Reference to Hypertension. Normal Respiratory and Pulmonary Circulatory Functions. Physiologic Derangements of the Respiratory System. The Digestive Tract. The Pancreas. The Liver and Biliary Tract. The Blood and Blood-forming Organs. The Coagulation of the Blood. Endocrine Dysfunction. The Adenohypophysis. The Posterior Lobe of the Pituitary. The Thyroid. The Parathyroid Glands. The Endocrine Function of the Pancreas. The Adrenal Cortex. The Male and Female Sex Organs. Physiology of Renal Function. Chronic Renal Failure. Acute Renal Failure. The Neuromuscular System. The Bones. The Joints. The Central Nervous System. The Hypothalamus. Resistance to Infection. Disturbances Induced by Infectious Agents. Autoimmunity and Autoimmune. Index.

THE HEINZ HANDBOOK OF NUTRITION

Executive Editor, BENJAMIN T. BURTON, Ph.D., H. J. Heinz Company, Pittsburgh, Pa.

447 *pp.*, 6 *x* 9, 21 *illus.* (1959).....$6.25*m*

A ready text-reference manual encompassing the broad field of human nutrition in a concise, authoritative manner, this work is written in a style and with a clarity of expression that will make it acceptable to the broad nutrition group—from intelligent layman to physician and biochemist. The subject matter ranges from the psychology of appetite to the basic physiology and biochemistry of food intake and utilization: from infant nutrition to postoperative diets; from fluid therapy to food allergy; from the nutritive constituents of common foods to the relationship between nutrition and specific diseases; from the biochemistry of essential nutrients to disaster feeding and public health nutrition. Particular attention is paid to the therapeutic and preventive aspects

of nutrition. Detailed outlines and sample menus for all accepted contemporary therapeutic diets are a special feature. This book summarizes up-to-date, proven, and accepted information in a concise manner.

CONTENTS—Part 1. UTILIZATION OF FOODS. 1. The Physiology and Psychology of Hunger, Appetite, and Food Intake. 2. The Physiology of the Gastrointestinal Tract and Digestion. 3. Absorption, Cell Metabolism, and Excretion. 4. Fluid, Electrolyte, and Acid-Base Balance. 5. Energy Metabolism. 6. Caloric Requirements. Part 2. THE FOOD ELEMENTS. 7. Proteins and Amino Acids. 8. Carbohydrates. 9. Fats. 10. The Vitamins. 1. Fat Soluble. *Vitamin A, Vitamin D, Vitamin E, Vitamin K.* 11. The Vitamins. II. Water Soluble *Thiamine, Riboflavin, Niacin, Pyridoxine, Biotin, Pantothenic Acid, Folic Acid, Vitamin B_{12}, Ascorbic Acid (Vitamin C).* 12. Minerals. *Calcium, Phosphorus, Iron, Copper, Iodine, Cobalt, Zinc, Manganese, Magnesium, Molybdenum, Fluorine, Sodium, Potassium, Water.* Part 3. NUTRITION IN HEALTH. 13. Human Nutritional Requirements. 14. The Nutritional Characteristics of Major Food Groups. 15. The Normal Adult Diet. 16. Nutrition in Pregnancy and Lactation. 17. Nutrition in Infancy. 18. Nutrition in Childhood and Adolescence. 19. Geriatric Nutrition. 20. Nutrition and Dental Health. 21. Obesity and Leanness. Part 4. NUTRITION IN DISEASE. 22. Malnutrition and Deficiency Diseases. *Avitaminosis A, Vitamin D Deficiency, Thiamine Deficiency, Niacin Deficiency, Riboflavin Deficiency, Vitamin C Deficiency, Kwashiorkor.* 23. Diets in Disease. 24. Nutrition in Diabetes Mellitus. 25. Nutrition and Diet in Diseases of the Gastrointestinal Tract. 26. Nutrition and Diet in Malabsorption Disorders. 27. Nutrition and Diet in Diseases of the Liver. 28. Nutrition and Diet in Diseases of the Biliary Tract. 29. Nutrition and Diet in Cardiovascular Diseases. 30. Nutrition and Diet in Diseases of the Kidney and Urinary Tract. 31. Nutrition and Diet in Gout and Osteoarthritis. 32. Nutrition and Diet in Congenital Metabolic Disorders. 33. Nutrition and the Anemias. 34. Nutrition and Diet in Neurologic and Psychiatric Disorders. 35. Nutrition in Diseases of the Skin. 36. Principles of Parenteral Nutrition. 37. Nutrition and Diet in Surgery and Surgical Conditions. 38. Food Allergy. Part 5. ADDITIONAL ASPECTS OF HUMAN NUTRITION. 39. Nutrition in Emergencies. 40. Food Sanitation and Toxicology. 41. Nutrition and Modern Food Technology. 42. Nutrition in Relation to Community Health. *Appendix:* Composition and Nutritive Value of Foods.

KASSAY—Clinical Applications of Bronchology

By DEZSO KASSAY, M.D. Foreword by CHEVALIER JACKSON, M.D.

225 *pp.*, 6 *x* 9, *illus.* (1960).....$15.00*m*

This up-to-date, mature work is based on the vast personal clinical experience of the author and on his profound knowledge of the field of diseases of the bronchi and the techniques of their study and treatment. Bronchology represents a new branch of medical science, and the usefulness of bronchology in the diagnosis and treatment of the common pulmonary diseases is described in detail in this book. The basic knowledge of a bronchologist is given in detail in reference to anatomy of the bronchial tree and wall; physiology of the bronchi; the technique of bronchoscopy; pathology of bronchial-stenosis; pathologic respiratory mechanisms; pulmonary segments; and the full coverage of the various valvular mechanisms which must be understood in order to comprehend and interpret physical signs. The techniques of bronchoscopy and bronchography are described, with special reference to the author's technique of "aimed bronchography." Indications and contraindications for these procedures are discussed. Consideration of the more common bronchial and pulmonary diseases is given with particular reference to the bronchologist's role in their diagnosis and treatment. The author illustrates all his important points with typical cases.

CONTENTS—1. Anatomy. 2. Physiology. 3. Roentgenology. 4. Instruments, Techniques, and Indications. 5. Diseases with Valvular Respiratory Mechanisms. 6. Infectious and Allergic Bronchitis. 7. Pneumonia. 8. Pulmonary Abscess. 9. Bronchiectasis. 10. Pulmonary Tuberculosis and Mycosis. 11. Bronchial Tumors. 12. Foreign Body. 13. Differential Diagnosis.

POPPER AND SCHAFFNER—Liver Structure and Function

By HANS POPPER, M.D., Ph.D., The Mount Sinai Hospital, and FENTON SCHAFFNER, M.S., M.D., Woodlawn Hospital, Chicago.

777 *pp.*, 6 *x* 10, 204 *illus.* (1957)..$25.00*m*

This is a comprehensive, superbly illustrated source book on liver, covering both structure and function in health and disease. The authors first describe the gross and microscopic structure and the physiologic and biochemical functions. With this material as a basis, they discuss clinical, laboratory, and pathologic aspects of liver disease, experimental pathology, liver function tests, changes in the liver in nonhepatic diseases, the correlated use of tests and biopsy findings in the differential diagnosis of liver disease. On the basis of personal observation as well as of a critical study of much of the available literature, the authors correlate the findings of the clinician, pathologist, physiologist, biochemist, and anatomist.

CONTENTS (Partial)—Part I. Normal Structure and Function. Part II. Pathologic Phenomena in the Hepatobiliary System. Part III. Clinical Study of Hepatic Function and Structure. Part IV. Diffuse Disease of the Liver. Part V. Focal Diseases of the Liver. Part VI. Tumors of the Liver and Biliary Tree. Part VII. Internal and External Environment and the Liver. Part VIII. Appendix.

RODAHL, NICHOLSON, AND BROWN—Bone As a Tissue

Edited by KAARE RODAHL, M.D., The Lankenau Hospital, Philadelphia; JESSE T. NICHOLSON, M.D., Chairman, University of Pennsylvania Graduate School of Medicine; and ERNEST M. BROWN, JR., M.D., University of Pennsylvania.

358 *pp.*, 6 *x* 9, *illus.* (1960).....$16.00*m*

This book is a review of the osseous system and of the significant advances in our knowledge of this system in recent years. Each chapter is by an internationally known authority and the material is divided into four general subject areas: Osteoporosis; Dynamics of Calcium Metabolism; Ultra-structure of Bone; and Vitamin D, Parathyroids, Citric Acid, Calcium, and Phosphorus. The basic material from which the book was developed was presented at an International Conference on "Bone as a Tissue" at Lankenau Hospital in Philadelphia. The discussions which followed the papers in each section have been included to enlarge upon the material presented and to relate it further to specific problems as raised by the attending physicians. The book encompasses our present knowledge of the osseous system from the basic cellular problem of connective tissue to the complicated clinical picture of osteoporosis.

CONTENTS—Part I. OSTEOPOROSIS. Osteoporosis of Cushing's Syndrome. Observations Bearing on the Problem of Osteoporosis. Osteoporosis and Calcium Deficiency. Osteoporosis: Atrophy of Disure. Part II. DYNAMICS OF CALCIUM METABOLISM. Chemical Dynamics of Bone Mineral. Kinetics of Calcium and Strontium Metabolism in Man. Ground Substance and Calcification. Microscopic Metabolism of Calcium in Bone. Part III. ULTRASTRUCTURE OF BONE. Fibrogenesis and the Formation of Matrix; Chemical Analysis and Electron Microscopy of Bone. Ultrastructure of Bone Material. Ca^{45} Autoradiography in the Study of Bone Tissue. Part IV. VITAMIN D, PARATHYROIDS, CITRIC ACID, CALCIUM, AND PHOSPORUS. Parathyroids and Homeostasis of Blood Calcium. Physiology of Vitamin D. Citrate Metabolism and Special Reference to Calcium and Bone. Phosphorus Metabolism.

RODAHL AND HORVATH—Muscle As a Tissue

Edited by KAARE RODAHL, M.D., Lankenau Hospital, Philadelphia and STEVEN M. HORVATH, Ph.D., University of California, Santa Barbara.

331 *pp.*, 6 *x* 9, 140 *illus.* (1962) $15.00*m*

A comprehensive contributed volume, this work covers the structure and function of the three types of muscle tissue, the chemical and physiological aspects of muscular contraction, the problem of muscle performance, and work. Finally all this is related to actual clinical practice, including information on cardiac performance, the use of muscle relaxants, and physical fitness in health and disease. The book is based on a very successful conference held at Lankenau Hospital, and all contributions have been carefully edited for continuity and level of presentation.

CONTENTS—PART I. STRUCTURE AND FUNCTION. 1. Skeletal Muscle. 2. Smooth Muscle. 3. Cardiac Muscle. Discussion. PART II. MUSCULAR CONTRACTION. Introductory Remarks by the Chairman. 4. Aspects of the Chemistry of Muscle Contraction. 5. Chemical Events and Contractile Activity. 6. Biochemical Control of Relaxation in Muscle Systems. 7. ADP Arrival at Muscle Mitochondria Following a Twitch. Discussion. PART III. MUSCULAR PERFORMANCE. 8. Muscular Performance. 9. Muscular Work and Fatigue. 10. Muscle Tone and Postural Regulation. 11. Observations on Smooth Muscle Function in Man. Discussion. PART IV. CLINICAL ASPECTS. 12. The Dilated Heart. 13. Cardiac Performance. 14. Clinical Pharmacology of Music Relaxants. 15. Physical Performance Capacity of the Older Individual. Discussion.

RODAHL—Fat as a Tissue

By KAARE RODAHL, M.D., Lankenau Hospital, Philadelphia.

In Press

Based on the proceedings of the Third International Research Conference at Lankenau Hospital, this book is divided into four parts. Part I on Structure describes lipid absorption and transport across intestinal mucosa and the development and fine structure of adipose tissue. Part II covers Metabolic Aspects including lipid transport between adipose tissue and blood, the removal and metabolism of triglycerides by perfused adipose tissue, synthesis and breakdown of triglycerides in adipose tissue, fatty acid biosynthesis and its control. Part III describes Mobilization and Utilization and the effects of hormones on fat mobilization, the metabolism of free fatty acids in skeletal muscle and myocardiu, the effect of exercise on the metabolism of plasma free fatty acids, neurogenic factors affecting adipose tissue metabolism and fat as an energy source. Part IV, Pathophysiology, discusses the role of fat in gross body composition and configuration, metabolism of adipose tissue in diabetes and the relationships of neutral fat to atherogensis.

RYAN—Medical Care of the Athlete

By ALLAN J. RYAN, M.D., American College of Sports Medicine.

343 *pp.*, 5⅝ *x* 8⅜, 26 *illus.* (1962) . . $9.75*m*

A very practical guide to all aspects involved in the medical supervision of sports activities, this work will serve as a ready reference for the many questions regarding diagnosis and management which are created by circumstances peculiar to both male and female athletes. Beginning with a section on "Getting Together with the Athlete," Dr. Ryan then considers the pre-participation examination, training, common injuries, nontraumatic problems, and reconditioning. The section on injuries emphasizes the immediate differential diagnosis and emergency management. The author indicates the average period of disability for various injuries and the precautions to be observed on return to competition. Of particular interest is the chapter which considers the hazards of various sports from Archery and Baseball through Water Skiing, Weight Lifting, and Wrestling.

CONTENTS—1. Getting Together with the Athlete. 2. The Preseason Physical Examination. 3. The Medical Supervision of Training. 4. Problems at Practice and Competition. 5. Common Injuries in Sports and Their Immediate Management. 6. Regional Injuries of the Body in Sports, Their Diagnosis and Management. 7. Nontraumatic Medical Problems of Athletes. 8. Each Sport Has Its Hazards. 9. Reconditioning the Injured Athlete.

SHARPE—Management of Medical Emergencies

Edited by JOHN C. SHARPE, M.D., University of California (Los Angeles) School of Medicine.

352 *pp.*, 5⅜ *x* 8, *illus.* (1961) $9.75*m*

Designed as a practical guide for the physician, this work is based on the authors' actual clinical experience in the recognition and practical management of the most common medical emergencies. The subjects which were chosen for discussion in this book represent many of the most common medical emergencies, as well as subjects in which management has changed to some extent over the past few years. Each emergency is defined and the usual signs and symptoms are presented, the differential diagnosis is outlined and the prognosis is given. The book is divided into five general sections and considers successively Neurologic Disorders, Cardiac Disorders, Abdominal Disorders, Pulmonary Disorders, and Metabolic Disorders. Some of the most recent advances covered in this work are in the therapy of cerebrovascular accidents, acute arrythmias, cardiac arrest, acute adrenal insufficiency, reversible uremia, and hepatic coma. This work considers the controversial aspects of each subject and a short bibliography is included to assist in furnishing the reader with additional material on the subject he wishes to pursue.

CONTENTS—NEUROLOGIC DISORDERS. The Comatose Patient. Acute Cerebral Vascular Accidents. Acute Barbiturate Poisoning. Alcoholic Intoxication. Acute Convulsive Disorders. Acute Psychiatric Emergencies. CARDIAC DISORDERS. The Acute Arrhythmias. Acute Myocardial Infarction. Acute Pulmonary Edems. Acute Pulmonary Embolism. Cardiac Arrest. ABDOMINAL DISORDERS. The Acute Nonsurgical Abdomen. Massive Upper Gastrointestinal Bleeding. PULMONARY DISORDERS. Emergencies in Allergy. Status Asthmaticus. Acute Respiratory Acidosis. Acute Spontaneous Pneumothorax. METABOLIC DISORDERS. Diabetic Acidosis. Acute Adrenal Insufficiency. Reversible Uremia. Hepatic Coma.

SHEPARD—The Physician in Industry

By WILLIAM P. SHEPARD, M.D., M.A., formerly, Metropolitan Life Insurance Company.

300 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961) $10.00*m*

The primary purpose of this book is to help the practicing physician interested in industrial medicine to orient himself in a new environment. This work is intended to place at the disposal of those interested in this field a brief, readable, simple summary of what is expected of physicians by industry in this country today. With the information contained in this book, the non-specialist will be able to assist the small industrial organization to develop a sensible health program. In addition,

the physician will better understand the differences between private practice and working in industry and the demands and needs of industry. Discussed in the work are such topics as the qualifications desirable in a part-time industrial physician; mental health in industry; health education in industry; the more common part-time medical care plans now in use; and medical administration in industry.

CONTENTS—1. The Role of the Physician in Industry. 2. Preplacement and Periodic Physical Examinations. 3. The Working Environment. 4. Industrial Toxicology. 5. Radiation Hazards in Industry. 6. The Industrial Dispensary (Infirmary, Health Center). 7. Accidents and Their Prevention. 8. Medical Aspect of Workmen's Compensation. 9. Medical Care for Disabled Industrial Workers (Private Insurance, Blue Cross, and Other Forms of Prepaid Care). 10. Absenteeism. 11. Health Education in Industry. 12. The Nurse in Small Industry. 13. Mental Health in Industry. 14. Desirable Qualifications for the Part-time Industrial Physician.

WEINSTEIN—The Practice of Infectious Diseases

By LOUIS WEINSTEIN, Ph.D. M.D., Tufts University School of Medicine; Harvard Medical School; New England Center Hospital, Boston, Massachusetts.

501 *pp.*, 5½ *x* 8¼ (1958).....$10.00*m*

This is the eighth volume in the *Handbooks for the General Practitioner Series*. It is written in careful detail to aid the general physician whose patients frequently suffer diseases of an infectious nature. The common infections of all organ systems are discussed with the recommended treatment and therapy. Throughout the book, Dr. Weinstein has based the approach to his discussions on particular organ systems rather than etiology, because as he states, "When a physician sees a patient with an infection, his attention is usually first directed to a particular organ rather than to an etiologic agent." Thus the author has arranged his book according to the classifications of infectious diseases.

CONTENTS—1. Principles of the Diagnosis of Infection. 2. Principles of Treatment of Infection. 3. Principles of Prevention of Infection. 4. Infections of the Mouth and Salivary Glands. 5. Infections of the Ears, Nose, Paranasal Sinuses, and Eyes. 6. Infections of the Upper Respiratory Tract. 7. Infections of the Lower Respiratory Tract. 8. Infections of the Mediastinum, Pedicardium, Heart, and Blood Vessels. 9. Infections of the Peritoneum and Intestinal Tract. 10. Infections of the Liver, Bile Ducts, Gall Bladder, and Pancreas. 11. Infections of the Urinary Tract. 12. Genito-Infectious Diseases. 13. Infections of the Nervous System. 14. Infections of the Musculo-Skeletal System. 15. Infections of the Skin. 16. Systemic Infections with Primary Manifestations in the Skin. 17. Fever of Obscure Origin.

WILLIAMSON—The Healing of Wounds: A Symposium on Recent Trends and Studies

By MARTIN B. WILLIAMSON, Ph.D., Stritch School of Medicine, Loyola University, Chicago, Illinois.

202 *pp.*, 5⅜ *x* 8, 49 *illus.* (1957)....$7.00*m*

Surgeons, gynecologists, obstetricians, and general physicians can make immediate clinical use of the vast amount of biochemical information on wound healing provided in this work. Both the "biological" and the "molecular" approach are discussed to bring out the viewpoints of both sides. The twelve contributors, all noted in their special areas, were chosen to represent different but allied fields and are all actively engaged at present in attempting to solve some particular problem in wound healing. Contributors: MARTIN B. WILLIAMSON, HUBERT R. CATCHPOLE, MATTHEW TAUBENHAUS, LEON C. EDWARDS, J. ENGLEBERT DUNPHY, HERBERT J. FROMM, HAROLD B. HALEY, DAVID S. JONES, EDWARD P. MARBACH, ROBERT C. NORDLIE, CHARLES D. PROCTOR, HERBERT E. SCHMITZ.

CONTENTS—Metabolism of Proteins and Amino Acids During Wound Healing. Role of the Ground Substance in Wound Healing. Methionine in Wound Healing During Protein Starvation. Pharmacological Considerations of Sulfur Compounds in Tissue Regeneration. The Role of Collagen in Wound Healing. Hormonal Influences Upon Granulation Tissue Formation. Vitamin C and Wound Healing. Healing of Muscle Tissue. Incisions Used in Gynecology. Clinical Approaches to the Concepts of Wound Healing.

SHEHADI—Clinical Radiology of the Biliary Tract

By WILLIAM H. SHEHADI, M.D.

305 *pp.*, 6 *x* 9, 181 *illus.* (1963)....$16.00*m*

A practical monograph by one of the world's foremost authorities on the subject, this volume covers all aspects of clinical radiology of the biliary tract including methods of visualizing the bile ducts, the interpretation of films, and the clinical significance of findings. Of particular interest is the material of different contrast media, techniques of positioning, etc. This work is well illustrated with films of the author's own cases which will be of particular interest to gastroenterologists, radiologists, and surgeons.

History of Medicine

MEANS—The Association of American Physicians

Its First Seventy-five Years

Edited by JAMES HOWARD MEANS, M.D.

320 *pp.*, 6 *x* 9 (1961).....$10.00*m*

This work presents the intimate and personal history of an association which is now an institution in American Medicine. The book was written by a man who is a past-president of the Association, and whose affiliation with the Association of American Physicians covers forty years. Prepared at the suggestion of the Association, the work is largely based on the official publications of the group, although other historical and biographical works have been consulted. This work is interestingly written, and includes many sketches of famous Association members which add flavor to the general presentation. This is the first history of the Association of American Physicians which is composed of the premier internists in this country.

CONTENTS—1. Birth of the Association. 2. First Encounters. 3. The Early Years. 4. The Ascendency of the Great Clinicians. 5. Growing Interest in Science. 6. Daughter Societies. 7. The Coming of Full Time. 8. The Benefactions of Dr. Kober. 9. The Twenties. 10. Some Intimate Glimpses. 11. The Thirties. 12. The AAP and World War II. 13. The Dinners. 14. The Postwar Ebullition of Research. 15. Recapitulation and Evaluation.

OSLER—Aequanimitas

By SIR WILLIAM OSLER, Third Edition.

451 *pp.* (1932) (Reprinted 1961)...$6.50*md*

This is a collection of inspiring addresses delivered in various places and at sundry times by Sir William Osler. This outstanding work has been reprinted in a deluxe library edition, handsomely bound in simulated leather and stamped in genuine gold.

Internal Medicine

BROWN AND PEARSON—Clinical Uses of Adrenal Steroids

By JOSIAH BROWN, M.D., and CARL M. PEARSON, M.D. *UCLA Medical Extension Series.*

384 *pp.*, 5⅜ *x* 8, *illus.* (1961).....$11.95*m*

This practical guide for the post graduate medical student and the medical practitioner is the only complete up-to-date book on all the established uses of adrenal steroids. Each chapter is written by an outstanding expert in the particular disease discussed and the specific advice on indications for steroids, doses, duration of therapy, results to be expected etc., is based on the contributor's many years of personal experience. The first fourteen chapters are on treatment, followed by three chapters on biochemistry of steroids, their effects on metabolism, and their effects on renal function and electrolytes.

CONTENTS—1. Corticosteroids in Perspective. 2. Adrenal Diseases. 3. Rheumatoid Arthritis. 4. Systemic Lupus Erythematosus and Polymyositis. 5. Acute Rheumatic Fever. 6. Resistance to Infection. 7. Diseases of the Lung. 8. Allergic Disorders. 9. Dermatology. 10. Eye Diseases. 11. Gastroenterology. 12. Nephrosis, Renal Diseases, and Other Edematous States. 13. Neoplastic and Hematologic Diseases. 14. Miscellaneous, Rheumatic Diseases; Thyroid and Neurologic Diseases. 15. Biochemistry of the Steroids; Structural-Functional Relationships. 16. Effect of Steroids on Water and Electrolyte Metabolism and on Renal Function. 17. Effect of Steroids on Metabolism of Carbohydrate, Protein, and Fat.

ELLENBERG AND RIFKIN—Clinical Diabetes Mellitus

Edited by MAX ELLENBERG, M.D., Mt. Sinai Hospital; and HAROLD RIFKIN, M.D., Albert Einstein College of Medicine.

446 *pp.*, 6 *x* 9, 37 *illus.* (1962) $13.50*m*

The material in this work was originally a series of articles which appeared in the *New York State Journal of Medicine*. This book is the result of the great interest evidenced in this series and contains the original material which has been extensively expanded and updated. All pressing aspects of this disease are considered from basic carbohydrate, lipid, and protein metabolism to actual clinical conditions, such as complications in pregnancy, dental and oral conditions, and care of the child with diabetes.

CONTENTS—1. Carbohydrate Metabolism. 2. Lipid Metabolism. 3. Protein Metabolism. 4. The Role of Zinc and Trace Metals. 5. Endocrine Relationships. 6. Hormonal Regulation of Glucose Production and Utilization. 7. Experimental Diabetes. 8. Pathology. 9. Laboratory Aids in Diagnosis. 10. Classification of Diabetes. 11. The Prediabetic State. 12. Nutrition in Diabetes. 13. Action in Insulin. 14. Insulin Inhibitors and Insulin Resistance. 15. Clinical Use of Insulin. 16. Oral Hypoglycemic Agents. 17. Spontaneous Hypoglycemia. 18. Glucagon. 19. Pregnancy and Diabetes. 20. Management of the Newborn Infant of the Diabetic Mother. 21. Management of the Child with Diabetes. 22. Dental and Oral Considerations of Diabetes. 23. Skin Lesions in Diabetes. 24. Surgical Management of the Diabetic. 25. Urogenital Complications in Diabetes. 26. Diabetic Acidosis. 27. Infection and Diabetes. 28. Diabetic Microangiopathy. 29. The Eye in Diabetes. 30. Diabetic Neuropathy. 31. Peripheral Vascular Disease in Diabetes. 32. Lipoatrophic Diabetes. 33. Employability of the Diabetic Patient. 34. The Future of Diabetes.

HARRISON, ADAMS, BENNETT, RESNIK, THORN, AND WINTROBE—Principles of Internal Medicine

Edited by TINSLEY R. HARRISON, M.D., RAYMOND D. ADAMS, M.D., IVAN L. BENNETT, M.D., WILLIAM H. RESNIK, M.D., MAXWELL M. WINTROBE, M.D. Fourth Edition.

2023 *pp.*, 7¼ *x* 9⅞, 237 *illus.* (1962)
One-volume Edition $19.50*m*
Two-volume Edition $27.50*m*

Principles of Internal Medicine is an outstanding volume because it gives a complete coverage of the symptoms as well as the diseases themselves and is the only work in this field to cover the subject in this manner. A thorough revision of a standard medical text, this fourth edition has been completely updated with all sections carefully reviewed and many completely rewritten. *Principles* is a biologically oriented book which places emphasis on a sound understanding of the physiologic disturbances which are involved in the disease processes. Carefully edited and integrated, this work begins with a consideration of the patient and the doctor's role in relation to the patient and his illness. This is followed by sections on the cardinal manifestations of disease, the biologic basis of disease, and the diseases themselves.

CONTENTS—PART I. The Physician and the Patient. PART II. Cardinal Manifestations of Disease. PART III. Biologic Considerations. PART IV. Metabolic and Endocrine Disorders. PART V. Disorders Due to Chemical and Physical Agents. PART VI. Diseases Due to Biologic Agents. PART VII. Reactions to Antigens and Other Foreign Substances. PART VIII. Diseases of Organ Systems.

HOCHSTEIN AND RUBIN—Methods of Examination

A Textbook of Physical Diagnosis

By ELLIOT HOCHSTEIN, M.D., and ALBERT L. RUBIN, M.D., both of Cornell Medical School.

In Press

This book is an outgrowth of the course in physical diagnosis which introduces the second-year student at the Cornell University Medical College to clinical medicine. Its purposes are fourfold: (1) to guide and assist the student, at the outset of his clinical studies, in developing systematic and analytic methods of examining a patient and recording the resulting data in clear language; (2) to aid the student in interpreting clinical signs and symptoms and in correlating them with his recently acquired knowledge of anatomy, physiology, and pathology; (3) to impress the student with the value and importance of collateral reading in medical journals and textbooks; and (4) to suggest teaching and learning techniques that may be useful in achieving the first three aims.

HOUGIE—Fundamentals of Blood Coagulation in Clinical Medicine

By CECIL HOUGIE, M.D., University Hospital, University of Washington.

320 *pp.*, 5⅜ *x* 8, *illus.* (1963) $11.95*m*

The author has concerned himself with presenting current knowledge and concepts in the field of blood coagulation in so far as they apply to the general practice of medicine. Theory is kept to a minimum with the result that the book is a practical guide for the practitioner, replete with well-established facts which form a rational basis for diagnosis and therapy. Many topics are included here which are rarely found in other literature. For example the author places special emphasis on anticoagulant therapy and presents newer aspects of thrombolytic therapy and bleeding disorders associated with extra-corporeal circulation.

CONTENTS—Preface. General Introduction. Blood Coagulation and Tests of Clotting Function. The Clinical Approach to a Hemorrhagic Disorder. Hemophilia and Hemophilioid Diseases. Treatment of Hemophilioid Diseases. Platelets and Platelet Disorders. Von Willebrand's Disease and the Vascular Purpuras. Vitamin K and Liver Disease. The Coumarin-Indanedione Drugs and Anticoagulant Therapy. Circulating Anticoagulants. The Fibrinolytic Enzyme System. Thrombolytic Therapy. Hemorrhagic Disorders in Pregnancy. Hemorrhagic Disorders Associated with Surgery. Hypercoagulability, Thrombosis, and Atherosclerosis. Appendix. Index.

INNERFIELD—Enzymes in Clinical Medicine
By IRVING INNERFIELD, M.D.
334 *pp.*, 5⅝ *x* 8⅜, *illus.* (1960)...$11.50*m*
Both the therapeutic and diagnostic uses of enzymes are discussed as well as the use of enzyme inhibitors. Because of the particular value of enzymes in treating inflammation, the book begins with a basic biochemical-physiological discussion of the inflammatory reaction particularly from the standpoint of proteolytic enzyme changes in acutely injured tissue. The approach throughout is purely clinical and only those laboratory aspects essential to an understanding of the clinical problem are included. All recent developments in enzyme therapy and diagnosis are considered. The author considers the pharmacology of various enzymes and presents detailed information on when to use various enzyme preparations, the route of choice in different clinical states, how to administer enzymes topically and by aerosols, contraindications for enzyme therapy, and how to measure the enzyme system in certain clinical situations. This work is well illustrated with helpful "before" and "after" photographs of patients.
CONTENTS—1. Proteolytic Enzymes and Inflammation. 2. Enzymes and Clot Lysis. 3. Methods of Administration. 4. Clinical Indications. 5. Enzyme Inhibitors. 6. Diagnostic Enzymes. 7. Clinical Viewpoints and Vistas in Enzymology.

MAXWELL AND KLEEMAN—Clinical Disorders of Fluid and Electrolyte Metabolism
Edited by MORTON H. MAXWELL, M.D., University of California (Los Angeles) Medical Center, and CHARLES R. KLEEMAN, M.D., Los Angeles Veteran's Hospital.
512 *pp.*, 6 *x* 9, 149 *illus.* (1962)....$16.00*m*
A comprehensive discussion of the disorders of fluid and electrolyte metabolism, encountered in clinical medicine, this book is the cooperative effort of eleven authorities well known in their respective aspects of the subject. The work begins with a discussion of the basic biochemistry and physiology of body fluids and electrolytes which serves as background for the succeeding clinical chapters. These clinical discussions are completely up-to-date and consider the diagnosis, pathophysiology and treatment of each condition. Ample visual material in the form of charts, tables and diagrams has been included to assist the readers understanding of the information presented.
CONTENTS—1. Dynamics of Body Water and Electrolytes. 2. Regulation of Major Body Electrolytes. 3. Regulation of pH of Body Fluids. 4. Regulation of Body Water. 5. Disorders of Calcium and Phosphorus Metabolism. 6. Normal Metabolic Requirements. 7. Chronic Renal Failure. 8. Acute Renal Failure. 9. Renal Tubular Disorders. 10. Abnormalities Associated with Diseases of the Endocrine Glands. 11. Pathogenesis and Treatment of Edema. 12. Fluid and Electrolyte Disorders in Obstetrics. 13. Fluid and Electrolytic Disturbances in Pediatrics.

MEANS, DE GROOT, AND STANBURY—The Thyroid and Its Diseases, 3rd Ed.
By JAMES H. MEANS, M.D., LESLIE J. DE GROOT, M.D., and JOHN B. STANBURY, M.D., all of Massachusetts General Hospital.
576 *pp.*, 6 *x* 9, *illus.* (1963).....$15.95*m*
Actural cases from one of the most famous thyroid clinics in the world—Massachusetts General Hospital—are used in this definitive work. The authors report the most current research and clinical findings on such disorders as Graves' Disease, Endemic Goiter and Endemic Cretinism, and Thyroiditis. THE THYROID is an unusually well-referenced work with emphasis on diagnosis and therapy. Based on the original classic FUNDAMENTAL AND PRACTICAL THYROIDOLOGY authored by Dr. Means, this new work is of equal value to endocrinologists and general practitioners.

MELLINKOFF—The Differential Diagnosis of Abdominal Pain
By SHERMAN M. MELLINKOFF, M.D. (Editor); THOMAS P. ALMY, M.D.; WILLARD E. GOODWIN, M.D.; VICTOR RICHARDS, M.D.
443 *pp.*, 5⅜ *x* 8, 29 *illus.* (1959)...$10.95*m*
The only single reference in medical literature to encompass completely all origins of abdominal pain, the material explores aspects of medicine, surgery, endocrinology, hematology, gynecology, urology, and other medical specialties. This book is unusual in having as its authors professors of internal medicine as well as surgery, ensuring the avoidance of what the editor, Dr. Mellinkoff, cites in his Preface as the twin dangers of abdominal diagnosis; *medical treatment where surgical treatment is imperative, and too-frequent surgery where more general medical survey of the patient's condition is necessary.*
CONTENTS—1. Basic Considerations in the Study of Abdominal Pain. 2. Medical Disease of the Abdomen and Its Parietes. 3. An Approach to Surgical Diseases of the Abdomen and Pelvis. 4. Appendicitis, Peritonitis, and Abdominal Abscesses. 5. Other Painful Abdominal Diseases Requiring Surgery. 6. Retroperitoneal Causes of Abdominal Pain. 7. Systemic Illness and Diseases Remote from the Abdomen Causing Abdominal Pain. 8. An Approach to Chronic or Recurrent Abdominal Pain.

SCHWARTZ, HARTZ, AND ROBBINS—Hematology in Practice
By STEVEN O. SCHWARTZ, M.D., Northwestern University Medical School; WILSON H. HARTZ, JR., M.D., Northwestern University Medical School; and JOSEPH H. ROBBINS, M.D., Northwestern University Medical School.
329 *pp.*, 7¼ *x* 9⅞, 108 *illus.* (1961).$14.00*m*
This very practical work provides guidance for the clinician and student in his approach to patients with various hematologic disorders. Specifically planned to assist in the evaluation and treatment of patients, the work is divided into three general parts. The first part considers diagnosis and categorizes diseases by the use of signs, symptoms, and findings with emphasis on the information derived at the bedside and its interpretation. The second section contains concise descriptions of the various hematologic disease entities, grouped to give pathophysiologic continuity and thus permit a ready differential diagnosis. Information on treatment is included here and an effort is made to present the dynamics and production of the disease in a way easily followed by the reader. The third part is a section on homeostasis contributed by Dr. Joseph H. Robbins and incorporates the laboratory approach, relating this to clinical needs. A particular feature, important from a diagnostic standpoint, are the simple line drawings indicating the size of the liver, the spleen, and other organs in each of the diseases or groups of diseases considered.
CONTENTS—Part 1. Diagnostic Approach. Part 2. Clinical Entities. Part 3. Hemostasis.

STANBURY, WYNGAARDEN, AND FREDRICKSON—The Metabolic Basis of Inherited Disease
By JOHN B. STANBURY, M.D., JAMES B. WYNGAARDEN, M.D., Duke University Medi-

cal Center, and DONALD S. FREDRICKSON, M.D., National Heart Institute.
1477 *pp.*, 6 *x* 9, *illus.* (1960)
Regular Edition $30.00*m*
1477 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961)
Student Edition $19.50*m*

A monumental work, this volume presents a complete coverage of the clinical, biochemical, and genetic aspects of genetically determined diseases. The rapid convergence of biochemical genetics, biochemistry, and clinical medicine has focused attention on the more than forty different disorders or groups of disorders considered here and the presentation of comprehensive reviews of these diseases in one volume make this a truly definitive work. All the contributions are timely, well-balanced, and up-to-date; and have been thoroughly edited to insure maximum readability without compromising the individual style of the contributors. The work begins with an introductory chapter which discusses the general field and includes a summary chapter on biochemical genetics. Included in the discussion of each disease is a clinical orientation section, a full discussion of the relevant biochemical processes, a discussion of the biochemical abnormality, and material on genetics and therapy. Free use of metabolic maps and explicit descriptions of normal pathways make it easy to visualize either known defects or areas in which they are likely to be found. Numerous human pedigrees are graphically presented to emphasize the inheritance of the disease.
CONTENTS—Part I: Introduction. Part II: Diseases Manifest Primarily as Disorders of Carbohydrate Metabolism. Part III: Diseases Primarily Related to Disorders of Amino Acid Metabolism. Part IV: Diseases Characterized by Evidence of Abnormal Lipid Metabolism (The Lipidoses). Part V: Disorders of Steroid Metabolism. Part VI: Disease of Purine and Pyrimidine Metabolism. Part VII: Diseases Primarily Manifest as Abnormalities in Metal Metabolism. Part VIII: Diseases of Porphyrin Metabolism. Part IX: Diseases Manifest Primarily in the Blood and the Blood-forming Tissues. Part X: Diseases Manifest Primarily Renal Tubular Transport. Part XI: Diseases Involving a Deficiency of Circulating Enzymes or Plasma Proteins. Appendix: Methods of Coding and Filing Family Records.

WEINSTEIN AND BEUTLER—Mechanisms of Anemia
Edited by IRWIN M. WEINSTEIN, M.D., University of California (Los Angeles) School of Medicine; and ERNEST BEUTLER, M.D., University of Southern California (Los Angeles) School of Medicine.
380 *pp.*, 5⅜ *x* 8, 74 *illus.* (1962) . . . $15.00*m*

MECHANISMS OF ANEMIA, a contributed work of eight well-known specialists in the field of hematology, differs from other works of its kind because it emphasizes the mechanisms of a disease, rather than the diagnosis and treatment. The basic morphologic, biochemical, and physiological aspects of red blood cell formation and destruction are considered in the opening chapters. In subsequent chapters the contributors discuss the ways in which derangements in blood formation and destruction result in anemia. Practicing physicians, residents, and students will all find that by using this book they will gain further insight into the basic mechanisms of the disorder, anemia, which they diagnose and treat daily.
CONTENTS—1. Physiologic Aspects of Erythropoiesis. 2. Morphologic Aspects of Erythropoiesis. 3. Erythrocyte Carbohydrate Metabolism. 4. Red Cell Life Span. 5. Erythropoietic Measurements with Radioiron. 6. Iron Metabolism and Iron Deficiency Anemia. 7. Biochemical Abnormalities Associated with Hemolytic States. 8. Anemia and the Spleen. 9. Autoimmune Hemolytic Disease. 10. Megaloblastic Anemia.

Medical Aids

BLUM—The Management of the Doctor-Patient Relationship
By RICHARD H. BLUM, Ph.D. Foreword by JOSEPH SADUSK, M.D., and ROLLEN WATERSON.
304 *pp.*, 6 *x* 9, (1960) $9.00*m*

This research-based, practical, understandable, how-to-do-it book was written to serve as a guide for physicians in their management of the doctor-patient relationship. Dr. Blum's book is a guide in human relations that provides the physician with the basic knowledge of patient psychology and the understanding of the cultural, social, and biological factors that influence the patient's behavior. Emphasis is placed on the necessity for the physician to be aware of these factors when trying to understand, predict, and control the relationship with his patients. This work contains practical suggestions which will help the physician solve some of the perplexing human relation problems that plague him in his practice, thus enabling him to prevent needless patient dissatisfaction.
CONTENTS—1. The Patient's Definition of Illness. 2. The Patient's Attitudes toward Illness. 3. Patient Attitudes toward the Doctor. 4. The Unreasonable Patient. 5. The Uncooperative Patient. 6. Patient Ignorance and Its Cure. 7. The Office Call. 8. Concluding the Office Call. 9. After the Office Call. 10. The Hospitalized Patient. 11. The Surgical Patient. 12. Getting the Family Involved. 13. The Doctor. 14. Medical Public Relations.

FISHBEIN—Medical Writing
The Technic and the Art
Edited by MORRIS FISHBEIN, M.D. Third Edition.
262 *pp.*, 6 *x* 9 (1957) $8.00*m*

This third edition of a book generally accepted as a standard in the field of medical writing, discusses every phase of the subject, including selection of manuscripts, style, types of articles, spelling, punctuation, illustration, revision, and bibliography. The book is an outgrowth of the technical notes which the author prepared while assistant editor and editor of the American Medical Association over a period of 37 years. Changes in this edition include: journal lists have been combined and brought up to date—new examples are given to point up the descriptions—inconsistencies in previous editions are corrected—additional degrees and honorary titles are given—rules of grammar are reorganized—Latin terminology is revised—the section on proofreading is revised —illustrations are changed to conform with the new text.
CONTENTS—An Acceptable Paper. Style. The Subject and the Material. Construction of the Manuscript. Words and Phrases. Spelling. Capitalization. Abbreviations. Numbers. Pharmaceutic Products and Prescriptions. Bibliographic Material. Preparation of the Manuscript. Illustrations. Tables and Charts. Revision of the Manuscript. Proofreading. Indexing. Abbreviations of Names of Periodicals.

HENDERSON—Emergency Medical Guide
By JOHN HENDERSON, M.D., Johnson & Johnson, and NEIL HARDY, Illustrator.
429 *pp.*, 5⅜ *x* 8, 106 *illus.* (1963) . . $6.95*m*
*McG-H Paperbacks Ed.**

Considerably wider in scope than the usual first-aid manual, the GUIDE presents not only all common emergency measures but also many life-saving techniques which have become available only within recent years. Described and illustrated, for example, are: improved methods of mouth-to-mouth resuscitation, ex-

ternal cardiac massage for both adults and infants, emergency care of a laryngectomee. The GUIDE is recommended for use in the MEND program (Medical Education for National Defense) and as a training manual for volunteer emergency units such as fire and ambulance squads.

CONTENTS—Preface. Principles of Emergency Care. Basic Technics of Emergency Care. Respiratory Emergencies and Resuscitation. Control of Hemorrhage. Shock: Types and Treatment. Fractures. Strains, Sprains, and Dislocations. Burns and Other Conditions Caused by Abnormal Temperatures. Auto Accidents and the Multiple-injury Victim. Treatment of Poisoning. Emergencies of Infancy and Childhood. Acute Contagious Diseases. Common Medical Emergencies. Medical Aspects of Civil Defense. Home Care of the Ill. Form and Function of the Body. Appendix: Schedule for Active Immunization of Infants and Children. Immunization Record. Desirable Weights for Men of Ages 25 and Over. Desirable Weights for Women of Ages 25 and Over. Emergency Telephone Numbers. Index.

** Available only through your local bookstore.*

Neurology

DAVIDOFF AND FEIRING—Practical Neurology

By LEO M. DAVIDOFF, M.D., and EMANUEL H. FEIRING, M.D., Albert Einstein College of Medicine and Mt. Sinai Hospital. Published by Landsberger Medical Books, Inc.; distributed solely by the Blakiston Division of McGraw-Hill. *Handbooks for the General Practitioner Series.*

448 *pp.*, 5½ *x* 8¼ (1955).....$8.00*m*

Here is a guidebook on how to recognize, refer, and guide therapy of organic diseases of the nervous system. The authors keep in mind the general practitioner's role in recognizing the general area in which the patient's illness lies, in knowing where to look for help when a specialist is needed, and in putting into effect the therapeutic program.

ROSE AND PEARSON—Mechanisms of Demyelination

Edited by AUGUSTUS S. ROSE, M.D.; and CARL M. PEARSON, M.D., both of UCLA School of Medicine.

394 *pp.*, 6 *x* 9 (1963).....$13.50*m*

Much new knowledge about myelin, the white insulating sheath which forms around certain nerves and nerve tracts, is presented here. Important data concerning the formation of myelin, its maturity, and its breakdown (demyelination) has been assembled by the editors in conjunction with several prominent investigators. Comparisons are made of the pathology of human and experimental demyelinating disease and there are descriptions of immunologic mechanisms, allergic disorders of the nervous system, and clinical manifestations of demyelinating disease. New research is outlined in detail with emphasis on auto-immunity as the possible pathogenesis for spontaneous human demyelinating disease.

CONTENTS—Foreword. Preface. Contributors. The Structure and Formation of the Myelin Sheath. The Chemistry of Myelin and Some Aspects of Myelination. Some Biochemical Considerations Regarding the Differing Forms of Demyelination. Spontaneous Human and Experimental Simian Demyelinating Disease. Hypersensitivity Mechanisms in Man and Animals. Immunologic Competence: Its Cellular Basis. Clinical and Experimental Deficiencies. Ontogeny and Phylogeny. Experimental Allergic Encephalomyelitis: A Model for Study of Pathology, Pathogenesis, Prevention, and Treatment of Auto-immune Diseases. Experimental Immunologic Disease of the Peripheral Nervous System. Demyelinating Disease: Clinical Features. Panel Discussion. Index.

Obstetrics and Gynecology

AUGUST—Hypnosis in Obstetrics

By RALPH V. AUGUST, M.D., Mercy Hospital, Muskegon, Michigan, and Hackley Hospital, Muskegon, Michigan.

176 *pp.*, 7¼ *x* 9⅞, *illus.* (1961)....$10.95*m*

Dr. August's book is the first and only current work covering the theory, techniques, and the specific use of hypnosis in clinical obstetrics. HYPNOSIS IN OBSTETRICS is a lucid, "how-to" book based on clinical experience for the specialist as well as for the non-specialist whose practice includes obstetrics. In this book, Dr. August presents specific details on how to manage different types of patients and also discusses those patients with whom hypnosis is contraindicated. Included in this outstanding volume is a 33⅓ r.p.m. record which presents selected excerpts of tape recordings of six patients in obstetric delivery under hypnoanesthesia. You will find that while this volume is comprehensive, it does not overstress the history of hypnosis. Not only does the book reflect the accepted, established thinking of other authorities on medical hypnosis, but it also mirrors the author's own extensive, practical, and successful experience derived from a wealth of obstetrical care in private practice.

CONTENTS—1. Introduction. 2. The History of Sedation. 3. What Is Hypnosis? 4. Principles, Approaches, and Techniques of Hypnosis. 5. The Patient, the Physician, and the Particular Situation. 6. Communication, Semantics, and the Positive Approach. 7. Hypnosis in the Successive Stages of Obstetric Care. 8. Pain. 9. Obstetric Hypnoanesthesia in the Nonconditioned Patient. 10. Obstetric Hypnoanesthesia with Conditioning. 11. Group versus Individual Conditioning. 12. Resistance. 13. Verbalizations. 14. A Review of Personally Obtained Statistics. 15. Summary and Conclusions.

JAVERT—Spontaneous and Habitual Abortion

By CARL T. JAVERT, M.D., Cornell University Medical College; New York Hospital; and New York Lying-in-Hospital.

450 *pp.*, 6 *x* 9, 196 *illus.* (1957)....$12.00*m*

Dr. Javert presents here the results of his more than 20 years of clinical practice and research in a remarkably detailed study of 2,000 spontaneous and habitual abortion specimens analyzed from the clinical, obstetric and pathologic points of view. These findings, statistically arranged in 94 tables for easy interpretation throughout the text, provide an enormous amount of new information on the causes and prevention of spontaneous and habitual abortion, which, it is hoped, will prove immediately useful to the obstetrician, gynecologist, psychiatrist and general physician. It presents clinical aspects, chemical studies, and the clinical management of incomplete abortion. The book stresses the importance of cord complications as the commonest causative factor of abortion. Finally, it discusses the clinical treatment of patients with repeated or habitual spontaneous abortion, using information obtained in the laboratory. The author has had a remarkable record with his treatment program—and has brought through to a successful outcome of pregnancy 80% of a group of patients with histories of repeated spontaneous abortion.

CONTENTS—Part I. Introduction: Methodology; Physiology of the Normal Conceptus Uteri. Part II. Pathology: Pathology of the Uterus and Ovary Corpus Uteri; Pathology of the Uteroplacental Organ; Pathology of the Ovofetus; Pathology of Umbilical Cord.

Membranes and Placenta; Pathology of Habitual Abortion; Therapeutic and Unintentional Abortion-Control Material; Part III. Clinical Obstetrics; Clinical Types and Incidents of Abortion; Clinical Maternal Factors; Anterpartum Vaginal Bleeding; Miniature Labor or Spontaneous Abortion; Mechanisms of Decidual Hemorrhage. Part IV. Psychosomatology: Prospective Parents; Marriage and Miscarriage; Prevention of Habitual Abortion; Prevention in the Primigravida; Medicolegal Aspects. Part V. Epilogue: Epilogue.

NOVAK—Gynecological Therapy

By JOSEF NOVAK, M.D., formerly University of Vienna.

258 *pp.*, 5⅝ *x* 8⅜, 18 *illus.* (1960) . . $8.95*m*

This book is primarily intended for the general practitioner who includes office gynecology in his practice. It covers the entire aspects of conservative gynecological therapy and at the same time there is discussion of the nature and clinical course of the major gynecological disorders encountered by the general practitioner. Dr. Novak covers in a concise way those conditions where surgery is indicated and the results that can be achieved by such surgical treatment, and explains the risks involved. The approach is symptomatic and diagnostic. Psychological aspects, pathology, physiology, and pharmacology are integrated throughout. Therapeutic indications are clearly presented, and although this is a practical book, a very comprehensive discussion of basic gynecology is maintained throughout. This work is intended to present those facts which the nonspecialist must consider in the treatment of gynecologic problems. The book makes apparent the knowledge, the wide experience, and the sound judgment of the author.

CONTENTS—1. Bleeding from the Genital Organs. 2. Amenorrhea and Oligomenorrhea. 3. Disorders Characterized by Pain or Discomfort. 4. Discharge (Fluor). 5. Vaginismus. 6. Frigidity and Dyspareunia. 7. Disorders of Reproduction. 8. Contraception and Sterilization. 9. Congenital Anomalies. 10. Tumors of the Female Sex Organs. 11. Special Diagnostic Procedures in Gynecological Practice. 12. Drug Therapy. 13. Physiotherapy. 14. Essentials of Gynecological Surgery. 15. Female Hygiene. Index.

PETTIT—Gynecologic Diagnosis and Treatment

Edited by MARY DEWITT PETTIT, M.D.

428 *pp.*, 6 *x* 9, 95 *illus.* (1962) $13.75*m*

Dr. Pettit has written a practical, compact volume which evaluates current diagnosis and therapy for the guidance of the practicing physician who examines gynecological patients. The prime objective of this book is to sift out current thoughts of gynecologic treatment and new approaches, and to correlate these with existing techniques and time-honored therapy. The presentation of material is planned to cover entities of importance in infancy, childhood, adolescence, adult life, the menopausal and the geriatrics group. Current references are listed at the end of each chapter to indicate where more detailed material is available on recent work.

CONTENTS—1. The Approach to the Office Patient. 2. Problems of Special Importance in Childhood and Adolescence. 3. The Gynecologic Endocrinopathies. 4. Dysmenorrhea. 5. Fertility Problems—Methods of Management. 6. Problems of Fetal Wastage in Early Intrauterine Pregnancy. 7. Disorders of the External Genitalia. 8. The Cervix Uteri. 9. The Corpus Uteri. 10. Disorders of the Fallopian Tubes and Contents of the Broad Ligaments. 11. The Ovary. 12. Injuries and Relaxations of Pelvic Supportive Structures. 13. Urinary Tract Problems of Interest to the Gynecologist. 14. Gynecologic Significance of Anal and Rectal Disease. 15. The Female Breast. 16. The Menopause, or Female Climacteric. 17. Problems of Special Importance in the Geriatric Group. 18. Principles of Psychiatry as Applied to Modern Medical Practice. 19. Abdominal and Pelvic Pain. 20. Backache. 21. The Management of Chronic and Terminal Illness.

REICH AND NECHTOW—Pitfalls in Gynecologic Diagnosis and Surgery

By WALTER J. REICH, M.D. and MITCHELL J. NECHTOW, M.D., both of Cook County Hospital and Chicago Medical School.

248 *pp.*, 5⅝ *x* 8⅜, 42 *illus.* (1962) . $10.95*m*

Information on how to avoid problems and complications in gynecologic diagnosis and surgery is presented in this practical book. Emphasis is placed on making correct diagnosis, and once this is made, on avoiding complications in treatment. This work covers such topics as Preoperative Management, Wound Closure and Postoperative Management, The Role of Anesthesia in Gynecologic Surgery, The Use of Human Blood Products, and Bacterial Shock. Of particular interest is the chapter on Ligation of the Hypogastric Arteries, a new and important method of controlling gynecologic and obstetric Hemorrhage.

CONTENTS—1. The Triad in Gynecologic Examination. 2. Preoperative Management in Gynecologic Surgery. 3. Wound Closure and Postoperative Management in Gynecologic Surgery. 4. General Surgical Considerations in Pelvic Disease. 5. The Role of Anesthesia in Gynecologic Surgery. 6. The Use of Human Blood Products in Gynecologic Surgery. 7. Diagnosis and Management of Bacterial Shock in Gynecologic Surgery. 8. Ligation of the Hypogastric Arteries. 9. Uterosacral Ligament Resection. 10. Diagnosis and Management of Some Vulvar Disorders. 11. Diagnosis and Management of Some Vaginal Disorders. 12. The Bartholin Gland. 13. Diagnosis and Management of Some Cervical Disorders. 14. Diagnosis and Some Surgical Procedures of the Uterus. 15. Some Disorders of the Fallopian Tubes. 16. Diagnosis and Surgery of Some Ovarian Disorders. 17. Vaginal Hysterectomy. 18. Wertheim Hysterectomy. 19. Endometriosis. 20. Diagnosis and Surgery of Common Problems of the Urethra and the Bladder. 21. Diagnosis and Surgery of the Posterior Vaginal Region. 22. Diagnosis and Vaginal Approach to the Repair of a Vesicovaginal Fistula. 23. Difficulties in the Diagnosis of Abdominal Masses. 24. Techniques of Diagnosis and Treatment of Some Other Gynecologic Problems. 25. Nongynecologic Entities Palpable on Bimanual Examination.

RUBIN AND NOVAK—Integrated Gynecology

By I. C. RUBIN, M.D., and JOSEF NOVAK, M.D., formerly University of Vienna.

1925 *pp.*, in 3 *vols.* (boxed; not sold separately), 6 *x* 9, complete Index and Table of Contents for all three volumes in each volume, more than 600 *illus.* (some in full color) (1956) . . . . . set $60.00*m*

For treating the whole female organism, this monumental three-volume work offers you a great wealth of gynecologic information correlated with other specialties and with general medicine. It contains an especially comprehensive discussion of tumors that considers them not as a separate entity but in close connection with other gynecologic subjects. This work features the practical type of treatment (including office treatment), emphasizing the simplest and most effective techniques of the authors as well as those of other eminent specialists.

CONTENTS—VOLUME I: Introduction. Anatomy. Evolution and Involution. Physiology. Gynecologic Examination. Congenital Anomalies of the Genitourinary Organs. Injuries to the Female Sex Organs. Effect of Toxic Agents on the Female Genital Organs. Deformities and Displacements of the Internal Genital Organs. Inflammatory Diseases of the Female Genitals. VOLUME II: Tumors of the Female Sex Organs. Constitutional Disorders and Gynecology. Disorders of Reproduction. VOLUME III: Relationship between Reproductive and Other Body Systems. Gynecologic Symptomatology. Operative Gynecology. Physiotherapy. Female Hygiene.

TYLER—Sterility: Office Management of the Infertile Couple

Edited by EDWARD T. TYLER, M.D. *UCLA Medical Extension Series.*

425 *pp.*, 5⅜ *x* 8, 103 *illus.* (1961)..$12.50*m*
This practical, comprehensive volume on the management of the infertile couple will be of great interest to all practitioners who have to deal with sterility problems. Each of the outstanding authors of this book has contributed a chapter on his particular aspect of the over-all problem, and the result is a survey of the important considerations relative to infertility in both male and female. Discussions of the emotional and hormonal factors, the effects of radiation, non-surgical treatment of endometriosis, and the Stein-Leventhal Syndrome are but a few of the practical presentations included in this work. This work was written with the aim of being a very practical guide for the practitioner since almost every practitioner is involved at one time or another in the treatment of infertile couples.

CONTENTS—Introduction. A Rational Approach to the Management of the Infertile Couple. The Fertilization Process. Evaluation of Male Fertility. Testicular Biopsy. Postcoital Tests. Ovulation. Cyclic Biochemical Changes in the Female. Hormone Assays in Sterility Studies. Vaginal Cytology and Ovarian Function. Tubal Patency Studies. Culdoscopy. The Place for Surgery in Infertility. The Stein-Leventhal Syndrome. The Use of New Progestogens in Fertility Problems. Nonsurgical Management of Endometriosis. Emotional Factors in Infertility. Abortion. Artificial Insemination. The Control of Fertility. Principles of Endocrine Therapy. Immunologic Factors in Infertility.

Ophthalmology, Otology, Laryngology, and Rhinology

ABRAHAMSON—Color Atlas of Anterior Segment Eye Diseases

By IRA A. ABRAHAMSON, JR., M.D., University of Cincinnati College of Medicine.

In Press

No other textbook or atlas in ophthalmology contains so many color photographs of anterior segment eye diseases. The author has selected the color illustrations for their detail, color intensity, and pathology to depict not only the conditions most frequently encountered but also some of the rare and unusual diseases. Text material is deliberately held to a minimum and stresses identification of the disorder and its diagnosis. The atlas includes 11 chapters on conditions of the lid and adnexa, trauma, muscles, orbit, conjunctiva and limbus, sclera, cornea, iris, glaucoma, cataracts and rare pediatric diseases.

ARRUGA—Ocular Surgery

By HERMENEGILDO ARRUGA, M.D. Translated by MICHAEL J. HOGAN, M.D. and LUIS E. CHAPARRO, M.D., Third English Edition.

977 *pp.*, 7⅜ *x* 10½, 1328 *illus.* (1962) $49.50*m*

Written by one of the world's outstanding surgeons and ophthalmologists, this volume is an up-to-date English translation of a work that has already received universal acclaim as a landmark in the literature of ophthalmic surgery. This revised edition gathers together in one remarkable volume all the vast knowledge and experience of Dr. Arruga, whose incredible record of operations includes well over four thousand on detachment of the retina alone. This encyclopedic study gives the surgeon and ophthalmologist a complete discussion of ocular surgery with a choice of procedures, the newest techniques, and the important changes recently made in older methods. From the preoperative preparation of the patient to the modern techniques in the treatment of corneal graft, cataract, retinal detachment etc., they have all been brought to the light of day in this new edition. As in the earlier editions, the illustrations are superb and continue unmatched for their clarity of detail.

MELLER—Ophthalmic Surgery

A Handbook of Surgical Operations on the Eyeball and Its Appendages

By J. MELLER, M.D., formerly University of Vienna. Revised by J. BOCK, M.D., Eye Clinic, Gratz, Austria. Translated and edited by RAY K. DAILY, M.D., and LOUIS DAILY JR., M.D., Baylor Medical College. Sixth Edition.

529 *pp.*, 6 *x* 9¼, 278 *illus.* (1953)..$16.00*m*

This sixth edition of a German classic contains detailed discussions of clinically tried and clinically proven surgical procedures in ophthalmology. It includes the operation for retinal detachment and that for the removal of intraocular foreign bodies among the procedures for the surgery of the eyeball and its appendages. It also discusses intranasal surgery of the lacrimal sac. Each operation is discussed in such detail that it can easily be followed by surgeons with only a grasp of the fundamentals of ophthalmology.

PATON, SMITH, KATZIN, AND STILWELL—Atlas of Eye Surgery

By R. TOWNLEY PATON, M.D., F.A.C.S., Manhattan Eye, Ear, and Throat Hospital; BYRON SMITH, M.D., F.A.C.S., Manhattan Eye, Ear, and Throat Hospital, HERBERT M. KATZIN, M.D., F.A.C.S., Manhattan Eye, Ear, and Throat Hospital, and DAISY STILWELL, Illustrator. Second Edition.

492 *pp.*, 8¼ *x* 11, 852 *illus.* (1962)..$25.00*m*

The great expansion of this second edition of *Atlas of Eye Surgery* to almost double the size of the previous edition makes this outstanding atlas even more indispensable than in years past. As in the first edition, the new line drawings are unmatched for accuracy and fine detail, and all are drawn from the viewing position of the operating surgeon, and thus illustrate all step-by-step procedures as the surgeon sees them from the position he must take during the operation. This Second Edition includes new developments which have had important effects on the eye surgeon's procedures including a new technique for cataract extraction. Because plastic surgery is assuming an increasingly large role in operations on the eye, the socket, and the lids, Dr. Byron Smith has joined the authors of the first edition and has contributed all the new material comprising Part 2, Plastic Surgery of the Eye, which was not included in the first edition.

CONTENTS—PART I. SURGERY OF THE EYE. 1. General Preparation. 2. Preliminary Considerations. 3. Anesthesia. 4. Operations for Cataract. 5. Operations for Iris Prolapse. 6. Operations for Glaucoma. 7. Operations for Retinal Detachment. 8. Corneal Transplantation. 9. Enucleation. 10. Evisceration. 11. Operations on the Extraocular Muscles. 12. Operations for Pterygium. PART II. PLASTIC SURGERY OF THE EYE. 13. Basic Techniques in Plastic Surgery of the Eye. 14. Operations for Simple Defects of the Upper Lid. 15. Operations for Full-thickness Defects of the Upper Lid. 16. Operations for Lacerations of the Lower Lid. 17. Operations for Full-thickness Defects of the Lower Lid. 18. Operations for Defects of the Medial Canthal Area. 19. Operations on the Lacrimal Apparatus. 20. Operations on the Lateral Canthus. 21. Operations for Ectropion. 22. Operations for Entropion. 23. Operations for Neoplasms of the Lids.

24. Retrobulbar Exploration. 25. Reconstruction of the Socket. 26. Operations for Fracture of the Orbit. 27. Operations for Blepharoptosis. 28. Operations for Baggy Eyelids. 29. Operation for Deformed Supratarsal Sulcus. 30. Operations for Superficial Corneal Disease. 31. Operations for Symblepharon of the Lower Fornix. 32. Operation for Replacement of Lashes.

PATON—Keratoplasty

By R. TOWNLEY PATON, M.D., F.A.C.S. Manhattan Eye, Ear, and Throat Hospital and New York University Medical School.

270 *pp.*, 7½ *x* 10, 29 *kodachrome color plates*, 74 *black-and-white illus.* (1955) $28.50*m*

In this thorough and exactly illustrated book are presented modern techniques and data in the whole field of keratoplasty. Here are the keratoplastic techniques that Dr. Paton himself has found most practicable and effective; with some of the major findings, views, and recommended procedures in the literature correlated or presented in antithesis. In addition to operative technique, the book covers thoroughly other aspects of keratoplasty: preoperative and postoperative care; the availability of donor tissue throughout the world: techniques for selecting and preserving donor tissues; analysis of recent findings on case selection; recent findings on the healing processes. The work of the Eye-Bank for Sight Restoration, Inc., is discussed in detail.

CONTENTS—(Foreword by Derrick Vail, M.D. Preface). General Survey. History of Corneal Grafting. Anatomy of the Cornea. Physiology of the Cornea. Case Selection. Donor Material. Preoperative Preparation. Operative Technique. Postoperative Care. Radiation Therapy. Cortisone Therapy. Histology of the Healing Cornea. Statistical Summary.

Parasitology

LARSH—Outline of Medical Parasitology

By JOHN LARSH, Dr. Sc., University of North Carolina.

In Press

A basic medical parasitology text with emphasis on clinical symptoms and therapy, this OUTLINE is the outgrowth of the author's twenty years' experience in teaching the subject to medical students. The work is intended as an aid for orientation to the subject, as a general survey of the field, and as a ready source of refresher material before examinations.

Pathology

ARMED FORCES INSTITUTE OF PATHOLOGY—Manual of Histologic and Special Staining Techniques

Edited by LAWRENCE P. AMBROGI, deceased. Second Edition.

207 *pp.*, 8 *x* 10½, *illus.* (1960).....$6.95*m*

Based on the vast experience of the Armed Forces Institute of Pathology Histopathology Laboratory Staff, this manual presents basic techniques in the most simplified and direct manner commensurate with good results. Special stains for special tissue components have been included so that satisfactory slides can be made from any tissue submitted to a laboratory. Alternative methods are given in many instances so that laboratories lacking the complete reagent stock of the Institute can choose methods for which they are equipped. Histochemical techniques as alternatives to staining procedures are given wherever possible. This revision includes the new plastic film techniques which permit easier and more compact filing of completed preparations.

CONTENTS—1. Preparation of Tissues. 2. Processing of Tissues. 3. Preparation of Sections. 4. Routine Staining Procedures. 5. Special Technics. 6. Stains for Connective Tissue. 7. Stains for Cytoplasmic Granules. 8. Stains for Hematologic Elements. 9. Stains for Fats and Lipoids. 10. Stains for Carbohydrates and Mucoproteins. 11. Stains for Pigments and Minerals. 12. Stains for Nerve Cells and Fibers. 13. Stains for Bacteria, Fungi and Inclusion Bodies.

BLAUSTEIN—The Spleen

Edited by ANCEL V. BLAUSTEIN, M.D., Booth Memorial Hospital, New York.

233 *pp.*, 6 *x* 9, 98 *illus.* (1963).....$12.50*m*

A synthesis of all the newer knowledge of structure, function, and disease of the spleen, this work presents the newer knowledge of the spleen, ranging from the discovery of the lymphatic system within the spleen to the use of Fe^{59} in the role of the spleen in iron turnover and Cr^{51} in red cell survival. The chapter on the diagnosis of splenomegaly presents a logical approach to the study of an individual case. It is meant to help the physician to order those procedures that are useful in diagnosis and to evaluate the results. The section on surgery of the spleen is well illustrated and should afford the surgeon an excellent opportunity to review techniques for splenectomy. The section on pathology is presented in the classical manner but embodies newer concepts of disease, eg. myelo proliferative disorders. This work is well illustrated and includes an extensive, up-to-date bibliography.

FALLIS—Textbook of Pathology

By BRUCE D. FALLIS, M.D., University of Texas.

In Press

The book covers both general pathology (the basic mechanism by which tissues react to various injuries) and special pathology (the study of the individual diseases). The etiology, pathogenesis and pathologic physiology of disease are discussed and correlated with the signs and symptoms of disease. This is an intermediate size text, concisely written, with concentration on certain carefully selected processes and diseases.

LOW AND FREEMAN—Electron Microscopic Atlas of Normal and Leukemic Human Blood

By FRANK N. LOW, Ph.D., and JAMES A. FREEMAN, SR., M.D., both of Louisiana State University School of Medicine.

347 *pp.*, 7¼ *x* 10, 214 *electron micrographs*, 15 *light micrographs* (1958).....$25.00*m*

This volume has been acclaimed as a classic reference volume for hospitals, laboratories, pathologists, and hematologists. One hundred and fifty full pages of electron micrographs are described, by labeled reference, on facing pages. Some light micrographs are included for comparison. The section on normal blood comprises about one third of the total and includes a presentation of basic electron cytology. Six leukemias; granulocytic, myeloblastic, stem cell, lymphocytic, monoblastic, and plasma cell are presented. There is a short section on nucleated erythrocytes. The text is primarily descriptive. It should be clear to those wholly unfamiliar with this new field of morphology. Sufficient illustrative material has been included to permit individual interpretations by the advanced investigator.

SHARP, BULLOCK, AND HAZLET—Oral Cancer and Tumors of the Jaws

By GEORGE S. SHARP, M.D., F.A.C.S., F.A.C.R. (Ther.), School of Medicine and School of Dentistry, University of Southern California, Pasadena Tumor Institute, and Pasadena Foundation for Medical Research, WELDON K. BULLOCK, M.D., M.Sc. (Path.), School of Medicine, University of Southern California, and JOHN W. HAZLET, D.D.S. School of Dentistry, University of Southern California.

561 *pp.*, 6 *x* 9, 657 *illus.* (1956)....$16.00*m*

This comprehensive teaching text and practitioner's ready-reference guide provides for the physician, oral specialist, and dentist a manual for the recognition of oral cancer and illustrates with text and photographs the difference between benign and malignant tumors. The book emphasizes the importance of early diagnosis and of seemingly harmless lesions. Each chapter considers anatomy, incidence, etiology, pathology, clinical and roentgenographic appearances, differential diagnosis, treatment, and prognosis.

CONTENTS—PART I: INTRODUCTORY PRINCIPLES FOR NEOPLASTIC DISEASES—History of Cancer. Origin of Cancer. Classifications of Oral Neoplasms. The BIOPSY. Precancerous Pathology. PART II: TUMORS, BENIGN AND MALIGNANT, OF THE ORAL MUCOSA AND ACCESSORY CAVITIES—Lesions of the Lips. Lesions of the Tongue. Lesions of the Floor of the Mouth. Lesions of the Gingivae. Lesions of the Cheeks. Lesions of the Hard and Soft Palate. Lesions of the Nasal Cavities and Paranasal Sinuses. PART III: NEOPLASMS, BENIGN AND MALIGNANT, OF THE JAWS—Tumors of the Epithelium. Benign Neoplasms of Connective Tissue. Malignant Neoplasms of Connective Tissue. Neoplasms of Reticuloendothelial Tissue. Lesions of Vascular and Nerve Tissue. Metastatic Tumors. PART IV: QUASI-TUMORS OF THE JAWS—The Exostoses. The Enostoses. Dysplasia. The Reparative Granulomas. Other Diseases of Bone Simulating Tumor. Odontogenic Hamartomas. PART V: CYSTS OF THE JAWS—Nonodontic Cysts. Odontic Cysts.

Pediatrics

DENHOFF AND ROBINAULT—Cerebral Palsy and Related Disorders

A Developmental Approach to Dysfunction

By ERIC DENHOFF, M.D., and ISABEL PICK ROBINAULT, Ph.D.

421 *pp.*, 6 *x* 9, 21 *illus.* (1960).....$12.50*m*

This book presents a new approach by introducing a new concept that dysfunction rather than fixed brain injury or brain damage is the background disability of children handicapped with cerebral palsy, epilepsy, mental retardation of organic origin, and hyperkinetic impulse disorders. This work discusses the applicability of current therapeutic methods to life situations and gives examples of how intermediate goals can be established realistically in order to cope with difficulties as they present themselves within the developmental pattern as a youngster progresses toward maturity. Never before has the medical approach been combined with the therapeutic method, educational techniques, and family life; with emphasis on the fact that each one must complement the other rather than allow the medical to overbalance or overpower the group. Recent advances in drug therapy, neurosurgery, and the function of orthopedic surgery are covered, as well as information on how to deal with perceptual problems. Personal needs at various development stages are outlined with case histories illustrating their pertinence to disabled children. This living approach differs from the purely perceptive approach of other texts.

CONTENTS—1. Definitions and a Developing Concept. 2. Clinical Descriptions. 3. Associated Sensory and Psychological Dysfunctions. 4. Comprehensive Medical Approach to Diagnosis and Prognosis. 5. Medical Timetable of Treatment. 6. Stages of Development and Related Therapy. 7. The Team Approach—Make-Up, Methods, and Goals. 8. Technics of Training—Review and Re-evaluation. 9. Psychological Assessment. 10. The Young Child. 11. The Young Adult. 12. Illustrative Case Histories—The Developmental Approach.

ELEY AND KRAMER—Practical Pediatrics

By R. CANNON ELEY, M.D., Harvard University, and BENJAMIN KRAMER, M.D., Maimonides Hospital, Brooklyn, New York, and University of the State of New York. Published by Landsberger Medical Books, Inc., distributed solely by The Blakiston Division, McGraw-Hill Book Co., Inc. *Handbooks for the General Practitioner.*

309 *pp.*, 5½ *x* 8¼ (1958).....$8.00*m*

Drs. Eley and Kramer provide important clinical information on cardiovascular malformations, the premature infant, epilepsy, leukemia, and diabetes in children. Excellent chapters describe the medical care of acute poliomyelitis and the management of meningitis. Another complete chapter is devoted to immunization procedures. Poisoning in children is thoroughly discussed. Causes and treatment of vomiting in children are handled, as well as the vitamin deficiency diseases. It is hoped that the current and extensive specialty information provided here, by such outstanding pediatricians as Drs. Eley and Kramer, will be especially useful to the family doctor who so frequently encounters a wide variety of children's ailments in his day-to-day practice.

CONTENTS—I. The Newborn. II. The Premature Infant. III. Infant Feeding. IV. Vomiting in Infancy and Childhood. V. Treatment of Contagious Disease. VI. Chemotherapy and Antibiotics. VII. Collagen Diseases Including Rheumatic Fever. VIII. The Medical Care of Acute Poliomyelitis. IX. The Management of Meningitis. X. Immunization Procedures. XI. Diseases of the Genitourinary Tract. XII. Leukemia. XIII. Recurrent Seizures—Epilepsy. XIV. Diabetes Mellitus. XV. Hypoglycemia. XVI. Allergy. XVII. Tumors. XVIII. Nephrosis. XIX. Pulmonary Tuberculosis. XX. Staphylococcus Pneumonia. XXI. Vitamin Deficiency Diseases. XXII. Growth and Development. XXIII. Cardiovascular Malformations Amenable to Surgery. XXIV. Fluid and Electrolyte Balance. XXV. Poisoning.

LINCOLN AND SEWELL—Tuberculosis in Children

By EDITH M. LINCOLN, M.D., and EDWARD M. SEWELL, M.D.

327 *pp.*, 6 *x* 9, 126 *illus.* (1963)....$12.95*m*

This practical and up-to-date work on the diagnosis and treatment of tuberculosis in children is written by Dr. Lincoln, a top national authority in this field, and her able assistant, Dr. Sewell, who specializes in chest diseases in children. Starting with epidemiology and pathogenesis of tuberculosis in children, the authors have brought together in one volume the latest diagnostic procedures and treatment, not only of tuberculosis in the respiratory system, but in all other systems of the body; mainly, the nervous and skeletal systems, superficial lymph nodes, abdomen, cutaneous tuberculosis, tuberculosis of the eye, heart, endocrine and exocrine glands, and the genital and urinary tracts. The work concludes with the latest information on the prevention and eradication of tuberculosis in children. The authors have included a section on the surgical aspects of tuberculosis, thereby making this work valuable to surgeons as well as chest physicians, radiologists, internists,

general practitioners, interns, residents, and senior medical students.

CONTENTS—1. Epidemiology. 2. Pathogenesis. 3. Diagnostic Procedures. 4. Treatment. 5. Primary Tuberculosis. 6. Tuberculosis of the Bronchi. 7. Hematogenous Tuberculosis. 8. Tuberculosis of the Pleura. 9. Tuberculosis of the Meninges and Central Nervous System. 10. Tuberculosis of the Skeletal System. 11. Tuberculosis of the Superficial Lymph Nodes. 12. Tuberculosis of the Mouth and Upper Respiratory Tract. 13. Tuberculosis of the Abdomen. 14. Cutaneous Tuberculosis. 15. Tuberculosis of the Eye. 16. Tuberculosis of the Heart and Peridardium. 17. Tuberculosis of the Endocrine and Exocrine Glands. 18. Tuberculosis of the Genital Tract. 19. Tuberculosis of the Urinary Tract. 20. Chronic Pulmonary Tuberculosis. 21. The Prevention and Eradication of Tuberculosis in Children.

MAYER AND SWANKER—Anomalies of Infants and Children

By D. McCULLAGH MAYER, D.D.S., M.D., F.A.C.S. F.I.C.S., American Board of Plastic Surgery, and WILSON A. SWANKER, M.D., F.A.C.S., F.I.C.S., Admiral Bristol Hospital, Istanbul, Turkey.

440 *pp.*, 5⅝ *x* 8⅜, 97 *illus.* (1958)..$12.50*m*

This volume is a reference work for medical and dental students and practitioners, bringing under one cover information that has been scattered throughout the medical literature under various specialties. The chief aim of the book is to describe anomalies to which infants and children are subject, whether by congenital malformations, birth trauma, accidents, or illnesses such as cancer; to suggest the optimal time for surgery; and to provide the practitioner with the kind of information he needs to present to the parents concerning the causes for the anomaly, the kind of treatment available, and the prognosis. Just enough technics and operative procedures are included to enable the practitioner to comprehend the whole problem. This volume is not intended to replace the standard textbooks of plastic surgery, but to complement them. Selected bibliographic references appear throughout the text.

CONTENTS—1. Introduction. 2. General Aspects of Pediatric Surgery. 3. Congenital Anomalies. 4. Blood-borne Anomalies. 5. Birth Injuries. 6. The Skin. 7. The Vault. 8. The Face. 9. The Mouth and Oral Cavity. 10. The Nose. 11. The Eyes and Eyelids. 12. The Ears. 13. The Neck. 14. The Trunk. 15. The Extremities. 16. Congenital Cancer. 17. Burns in Childhood. 18. Accidents to Children.

SILVER, KEMPE, AND KEMPE—Healthy Babies—Happy Parents

By HENRY K. SILVER, M.D., C. HENRY KEMPE, M.D., and RUTH S. KEMPE, M.D.

228 *pp.*, 8½ *x* 11, 152 *illus.* (1960)..$1.95*tg*

This practical book on child care, written by pediatricians (and parents), is designed to furnish information and counsel to conscientious mothers and fathers who seek wisdom and better understanding about their babies so that the first year may be a more enjoyable and easier one for the entire family. The information presented in this book ranges from the most minute, practical details of feeding, clothing, bathing, training, immunization, and illnesses, to general advice on household help and baby sitters, traveling with a baby, and many other non-medical problems. All common problems that beset parents are discussed—covering the care of the well child as well as the sick child. The book is divided into two parts. Part I presents, in a unique question-and-answer approach, a very comprehensive survey of the child's first year on a month-by-month basis. Part II is a manual on child care, elaborating on the answers given in Part I and covering all that parents need to know about their baby during the first year. The information is presented in a reassuring and informal fashion which parents will find most readable.

CONTENTS—Part I: Questions and Answers about Your Baby's First Year. 1. Introduction. 2. The First Month. 3. The Second Month. 4. The Third Month. 5. The Fourth Month. 6. The Fifth Month. 7. The Sixth Month. 8. The Seventh Month. 9. The Eighth Month. 10. The Ninth Month. 11. The Tenth Month. 12. The Eleventh Month. 13. The Twelfth Month. Part II: Manual of Child Care. 14. The Physical Facts about Your Newborn Baby. 15. Your Feelings as a New Mother. 16. Health Care for Your Baby. 17. Development and Learning. 18. Weaning. 19. Teeth. 20. Toilet Training. 21. Common Problems of the Normal Healthy Child. 22. Immunization. 23. Caring for the Sick Baby. 24. Illnesses. 25. Skin Rashes and Other Skin Troubles. 26. Communicable Diseases. 27. Accident Prevention. 28. First Aid.

SLOBODY—Survey of Clinical Pediatrics, 4th Ed.

By LAWRENCE B. SLOBODY, M.D., New York Medical College, in association with EDWARD WASSERMAN, M.D., New York Medical College.

541 *pp.*, 6 *x* 9, *illus.* (1963).....$11.50*m*

Important changes and growth taking place today in pediatrics are reflected in this completely revised edition of a well-known classic. Every section in the book has been rewritten to include all new advances. Most current information on antibiotics is included, with special dosage schedules for premature and newborn infants. A new chapter has been added on genetics and inborn errors of metabolism. The expanded chapter on Growth and Development deals more extensively with the adolescent. The section on viral infections is enlarged.

CONTENTS—Preface. Growth and Development. Feeding of Infants and Children. Vitamins and Metabolism. Preventive Pediatrics. Psychologic Problems. Treatment. Fluid and Electrolyte Balance. Metabolic Basis of Inherited Diseases. The Normal Newborn Infant. Diseases of the Newborn. Prematurity. Infectious Diseases. Respiratory Diseases. Heart Disease. Gastrointestinal Diseases. Surgical Conditions of the Abdomen. Genitourinary Diseases. Neurologic Conditions. Diseases of the Skeletal System. Blood Disorders. Neoplasms of Infancy and Childhood. Endocrine Diseases. Allergy. Skin Disorders. Appendix. Reference Books. Index.

WOLMAN—Laboratory Applications in Clinical Pediatrics

By IRVING J. WOLMAN, M.D., University of Pennsylvania and The Children's Hospital of Philadelphia.

1019 *pp.*, 6 *x* 9 (1957).....$15.00*m*

This is a practical text which will assist and guide the physician in the intelligent use of routine laboratory tests as aids in the management of pediatric patients. It surveys all the major facets of the clinical laboratory as related to the practice of pediatrics, emphasizing material that is useful for diagnosis and immediately pertinent to practice. Dr. Wolman's book shows how the limits of normal variation in infancy and childhood and the interpretations to be applied to abnormal findings not only differ from those of adults in many ways, but vary with phases of age and growth. Also taken into account is the fact that, in pediatrics, determinations often have to be carried out by specialized procedures which utilize much smaller quantities of body fluids. Emphasis is placed on the disturbances in physiologic functions which accompany disease states.

Pharmacology

APPLEZWEIG—Steroid Drugs

By NORMAN APPLEZWEIG, Norman Applezweig Associates.

742 *pp.*, 6 *x* 9, 32 *illus.*.....$25.00*m*

Never before has such a comprehensive treatment been given to steroid research as is now presented in this valuable book designed for everyone who may be seeking to understand this subject in its entirety. Written by one of the pioneers in steroid research and development, *Steroid Drugs* combines for the first time in a single volume the detailed physiologic, chemical, and medical information on this important group of drugs. An especially valuable inclusion in this work is a complete catalog of the over 1800 biologically active steroids coded according to their structure. This feature enables the user to determine immediately whether a structural alteration of a basic steroid has been attempted and the effect of this alteration on its biological activity. Of particular interest is the appendix where the structure, biological activity, and the original literature citation or patient number for the compound are found.

CONTENTS—PART I. HISTORY AND BACKGROUND OF STEROID PRODUCT DEVELOPMENT. 1. Steroid Hormones. 2. Industrial Development of Steroid Products. PART II. PRODUCTION PROCESSES. 3. Raw Materials. 4. Hormones, Intermediates, and Derivatives. 5. Modified Steroid Hormones. 6. Steroid Pharmacology. 7. Stress and Inflammation. 8. Steroids and Cancer. 9. The Ovarian Cycle and Reproduction. 10. Renal and Cardiovascular Disease. 11. Atherosclerosis. 12. Anabolism, Growth, and Aging. 13. Miscellaneous Therapeutic Applications. PART IV. BIOLOGICALLY ACTIVE STEROIDS. 14. Classification of Biologically Active Compounds TABLES OF BIOLOGICALLY ACTIVE STEROIDS. CATALOGUE OF BIOLOGICALLY ACTIVE STEROIDS.

DRILL—Pharmacology in Medicine

A Collaborative Textbook

Edited by VICTOR A. DRILL, Ph.D., Northwestern University Medical School; University of Illinois College of Medicine; G. D. Searle & Company. Second Edition.

1273 *pp.*, 8½ *x* 11, *illus.* (1958)....$19.95*m*

This book was prepared by 86 specialists in various fields of pharmacology, which assures that all the latest drug information is provided by experts who know their areas best. Many new features have been added to this second edition. Since drugs have come into greater use in psychiatric treatment, a new chapter on Drugs Affecting Behavior has been added. Data on new drugs and new data on old drugs have been incorporated and brought up to date. All material has been edited to conform with the latest editions of the *United States Pharmacopeia*, the *National Formulary*, and *New and Non-official Drugs*. An addendum has also been added in order to include material which has come into prominence during the actual production of the book. The index in the second edition is outstanding. It is so prepared that if the reader wants to look up a drug which acts on a particular body system, this drug is indexed according to its chemical constituents as well as by the trade name.

CONTENTS—Part 1. Introduction. Part 2. General Anesthetics. Part 3. Local Anesthetics. Part 4. Adjuncts to Anesthesia. Part 5. Sedation, Hypnosis, and Analgesia. Part 6. Central Nervous System Stimulants. Part 7. Psychopharmacology. Part 8. The Autonomic Nervous System. Part 9. The Cardiovascular System. Part 10. Water and Salt Balance. Part 11. Allergic Manifestations. Part 12. The Gastrointestinal Tract. Part 13. Dermatomucosal Agents. Part. 14. The Hematopoietic System. Part 15. The Metals and Radioactive Elements. Part 16. Gases, Vapors, and Dusts. Part 17. The Vitamins and Other Nutritional Factors. Part 18. The Endocrine Glands and Accessory Reproductive Organs. Part 19. Specific Chemotherapy. Addendum. Index.

INSTITUTE FOR ADVANCEMENT OF MEDICAL COMMUNICATION—Index-Handbook of Cardiovascular Agents

Sponsored by Institute for Advancement of Medical Communication. Edited by ISAAC D. WELT, Ph.D. Volume I.

2067 *pp.*, 9 *x* 10⅞ (1963).....$32.50*m*

A comprehensive, detailed guide, this work serves as a reference volume for the world literature on the effects of chemical substances on the cardiovascular system; covering the period 1931–1950. Featured in this book is a full subject index by chemical and biomedical terms and a bibliographic index. Over four-hundred scientific journals in twenty languages have been examined page-by-page in making the selection of articles to be included in this work. All chemical entries follow the standard *Chemical Abstracts* Nomenclature, and only generic names of drugs have been used wherever possible.

SCHUELER—Chemobiodynamics and Drug Design

By F. W. SCHUELER, Ph.D., Tulane University School of Medicine.

638 *pp.*, 6 *x* 9, 110 *illus.* (1960)....$19.50*m*

This work is unique in its application of the principles of chemical control in biology to the problems of drug design useful to all who desire a text or reference which considers the relationship of chemical constitution to biological activity. The material presented is distinct from that usually presented in pharmacology texts and considers the basic chemobio aspects of drugs and drug action rather than the over-all therapeutic aspects. Presenting in an integrating, evolving way the nature of chemical control in biology, the book considers many new theoretic concepts and new ways of dealing with older concepts. Emphasis is placed on the principles of drug design in contrast to the drug synthesis approach found in most medical chemistries. This volume serves as a text for students interested in the relationship between chemical constitution and pharmacologic activity which today represents one of the most rapidly expanding fields of interest especially for pharmacologists, pharmaceutical chemists, and many organic chemists. The division of this text into two parts serves appropriately the needs of graduate teaching in general pharmacology on the one hand and graduate teaching in pharmaceutical chemistry on the other hand. Thus Part I may be of greatest interest to those concerned with the nature of drug initiated responses, while Part II emphasizes the nature of drug design as an activity preceding drug synthesis. This book also serves in a supplementary way the needs of teachers in courses in medical, dental, or veterinary pharmacology who for particular students desire a reference or text concerning the fundamental nature of drug action not dealt with in conventional texts oriented primarily toward therapeutics.

CONTENTS—PART I: Chemobiodynamics. Introduction and Perspective. 1. The Frame of Reference for Chemobiodynamics. 2. Unification of Concepts on Various Levels of Organization. 3. Physical-Chemical Theory. 4. The Measurement of Chemobiodynamic Activity. 5. Molecules and Molecular Systems—Structural Considerations. 6. Molecules and Molecular Systems—Some Dynamic Considerations. 7. Polymolecular Systems. 8. The Cellular Level of Integration. 9. Tissue; Organ; Organism and Society. PART II:

Drug Design. 10. The Method of Variation. 11. The Use of Biochemical and Physiological Information. 12. The Design of Drug Mixtures. 13. Advancing Areas of Drug Design. 14. Problems and Exercises. 15. Education Toward Drug Design.

Preventive Medicine and Public Health

HUBBARD—The Early Detection and Prevention of Disease

Edited by JOHN P. HUBBARD, M.D., University of Pennsylvania School of Medicine.

348 *pp.*, 6 *x* 9, *illus.* (1957).....$9.50*m*

This book, the edited proceedings of a series of postgraduate symposia conducted at the University of Pennsylvania School of Medicine, is valuable to medical students and physicians who wish to review the current status of knowledge in the area of preventive medicine. It deals extensively with the relation of preventive medicine to the clinical practice of medicine (rather than intensively with the several aspects of a single disease or a single physiologic system). Twenty-eight eminent clinicians contribute to the book's nine sections: preventive medicine in clinical practice; the cardiovascular system; the gastrointestinal system; pelvic cancer; selected diseases; norms of mental health and early detection of deviations from the norms; measurement of the health of the musculoskeletal system; a review of immunization; and the practical application of preventive medicine in the armed services.

LEAVELL AND CLARK—Preventive Medicine for the Doctor in His Community

An Epidemiologic Approach
(formerly titled Textbook of Preventive Medicine)

By HUGH R. LEAVELL, M.D., Dr. P.H.; Harvard School of Public Health, and E. GURNEY CLARK, M.D., Dr. P.H., Columbia University School of Public Health. Second Edition.

689 *pp.*, 6 *x* 9, 48 *illus.* (1958)....$11.00*m*

As an epidemiologic approach to preventive medicine, designed primarily for those expecting to enter private practice, this second edition has the following objectives: 1. To expand the concept of preventive medicine for wider application. 2. To give an understanding of the essentials involved in promoting health and preventing disease. 3. To point out the value of practicing medicine with a preventive point of view and to motivate practitioners to incorporate this concept in their practice. 4. To develop this philosophy and point of view so as to enable the private practitioner to see and appreciate his role in the total picture of community health activity. The authors have described the health facilities which the community provides in order that the doctor can use them with best results in caring for his patients.

CONTENTS—Preface. Introduction. PART I. BASIC PRINCIPLES. 1. What Is Preventive Medicine. 2. Levels of Application of Preventive Medicine. 3. An Epidemiologic Approach to Preventive Medicine. 4. Biostatistics. PART II. APPLICATION OF PRINCIPLES. 5. Prevention of Communicable Disease. 6. Nutrition in Preventive Medicine. 7. Long-term Illness and the Effect of the Aging Process on Health. 8. The Prevention of Cancer. 9. Preventive Factors in Allergy, Accidents, Alcoholism, Diseases of the Sense Organs, and in Surgery. 10. Natural History and Prevention of Oral Disease. 11. Genetics and Preventive Medicine. 12. Maternal and Child Health. 13. Mental Health. 14. Occupational Health. 15. Preventive Services in Individual Practice. 16. Rehabilitation as a Phase of Preventive Medicine. PART III. PUBLIC HEALTH—PREVENTIVE MEDICINE AS ORGANIZED COMMUNITY ACTION. 17. The Doctor in His Community. 18. Medical Care of the Sick. 19. Other Basic Health Services. 20. Planning for Community Health. 21. Organized Action for Meeting Community Needs. Index.

Public Health

SCHLESINGER—Health Services for the Child

By EDWARD R. SCHLESINGER, M.D., Albany Medical College, Union University.

403 *pp.*, 6 *x* 9, 14 *illus.* (1953).....$9.00*m*

This work presents an interpretation of the principles and techniques involved in the great variety of obstetric and pediatric community health services available today. An over-all view is obtained of the interrelations of municipal and state health departments and voluntary groups in meeting the needs of women throughout the maternity cycle and in caring for child development from birth through adolescence.

CONTENTS—PART I. BASIC CONSIDERATIONS: THE COMMUNITY CHILD HEALTH PROGRAM. Planning and Evaluation of Child Health Services. Trends in Morbidity and Mortality. Background of Child Health Services in The United States. Administrative Relationships. Implementing the Child Health Program. Services of Professional Personnel. Hospitalization and Related Services. PART II. ESSENTIAL HEALTH SERVICES: HEALTH APPRAISAL. Promotion of Mental Health. Control of Communicable Diseases. Dental Health Services. Nutrition Services. Promotion of Child Safety. PART III. HEALTH SUPERVISION: PRINCIPLES OF HEALTH SUPERVISION. The Maternity Cycle. The Neonatal Period. Later Infancy and the Preschool Period. School Age and Adolescence. PART IV. SPECIAL PROBLEMS: SERVICES COMMON TO CHILDREN WITH SPECIAL PROBLEMS. Children with Physical Handicaps. Children with Intellectual, Emotional, and Social Handicaps.

STEVENSON—Mental Health Planning for Social Action

By GEORGE S. STEVENSON, M.D.

358 *pp.*, 6 *x* 9 (1956).....$8.00*m*

"There is more scientific knowledge and technique for dealing with mental illness than is now being used," challenges Dr. Stevenson. How we can use our current knowledge to a fuller extent and toward better results is set forth in this thorough and wide-ranging book. The goals of a mental health program—ways to find the mentally ill—the need for classifying them—are laid down as cornerstones. Dr. Stevenson examines the mental hospital, the place of the government in mental health, the contribution to mental health of the church, school, prison, industrial firm, military defense services, and other institutions. He shows what can be done for the child, the delinquent, the criminal, the aged, the mentally deficient.

WILLIAMS, ARMSTRONG, GUNTER, McCULLOCH, AND STILLER—Nursing Home Management

By RALPH C. WILLIAMS, M.D., MARGARET BULL ARMSTRONG, R.N., JAMES F. GUNTER, B.B.A., EDITH MCCULLOCH, R.N., and JACK STILLER.

230 *pp.*, 6 *x* 9, *illus.* (1959).....$9.50*i*

Offers complete information on the establishment and operation of nursing homes, and the care of their residents. Written by 5 experts in the fields of medicine, public health, nursing, and administration, it covers in detail such important considerations as organization, administration, nursing services, hygiene of the aged, fire prevention, purchasing, care of the bedridden, medical service, nutrition, licensing regulations, and much more. All necessary business forms are shown and their uses and purposes explained; suggested personnel policies, including a training program, are outlined; diets

are given; and standards of nursing care, plus special information on caring for the special ailments of the aged and senile are included. Illustrated with 69 tables, checklists, and photographs.

CONTENTS—PREFACE. INTRODUCTION. 1. Establishment and Organization. 2. Business Management. 3. Medical and Nursing Care. 4. Recreational Facilities and Group Programs. 5. Food Service Department. 6. Housekeeping and Laundry Services. 7. Buildings and Grounds. 8. Safety Program. Appendix A—Example of State Licensing Law. Appendix B—Checklist of Essential Documents Pertaining to Nursing Home Operation. Appendix C—Model Nursing Home By-laws. Appendix D—A Code of Ethical and Administrative Principles of Nursing Homes. Appendix E—Suggested Personnel Policies for the Nursing Home.

Prosthetics and Rehabilitation

AMERICAN MEDICAL ASSOCIATION—Handbook of Physical Medicine and Rehabilitation

Selections Authorized for Publication by the Council on Physical Medicine and Rehabilitation, American Medical Association.

573 *pp.*, 5½ *x* 8¾, 56 *illus.*, 25 *tables* (1950) $4.75*m*

This handbook brings under consideration all the medical, psychological, and social services involving the handicapped person. A person recovering from disease or injury is taught to live, and if possible, to work with his affliction.

BUCHWALD—Physical Rehabilitation for Daily Living

By EDITH BUCHWALD, New York University Bellevue Medical Center, in collaboration with HOWARD A. RUSK, GEORGE G. DEAVER, and DONALD A. COVALT.

185 *pp.*, 8½ *x* 11, *illus.* (1952)....$10.00*m*

Based on the well-known program developed at New York University-Bellevue Medical Center, this important book outlines teaching methods for a basic exercise and daily activity program for patients with disabilities of the lower extremities.

GRAHAM AND MULLEN—Rehabilitation Literature 1950–1955

By EARL C. GRAHAM and MARJORIE M. MULLEN, the National Society for Crippled Children and Adults.

573 *pp.*, 7 *x* 10 (1956).....$13.00*m*

This all-inclusive review indexes and annotates 5,214 periodical articles, pamphlets and books relating to the medical care, education, employment, welfare, and psychology of handicapped children and adults. Here, in one alphabetical listing by subject, are the references published in the six-year period from January 1950 to December 1955. References are given to both different professional specialty areas and to different disability areas. All areas of disability—hearing and visual as well as orthopedic are covered in this book. This book will enable the worker or student to know and find recent literature in his professional area of responsibility, and to inform himself of the literature in other areas of rehabilitation activity.

LAWTON—Activities of Daily Living for Physical Rehabilitation

By EDITH BUCHWALD LAWTON, M.A., A.R.P.T., New York University-Bellevue Medical Center.

306 *pp.*, 8½ *x* 11, 557 *illus.* (1963).$17.50*m*

This book is directed to all members of the rehabilitation team who are concerned with teaching the patient who has a disability the necessary skills for his physical independence and self-efficiency. Covered in this work are the techniques which are necessary to train the patient to perform independently the maximum daily activities in his home, in connection with his work, and in his social life according to his capacity to move effectively. The book deals with extensive disabilities such as the quadriplegic, hemiplegic, amputee, arthritic, Parkinson's disease and multiple sclerosis and other neurologic lesions as well as orthopedic and geriatric problems are covered.

WHITE, RUSK, WILLIAMS, AND LEE—Cardiovascular Rehabilitation

By PAUL DUDLEY WHITE, Massachusetts General Hospital, Boston, HOWARD A. RUSK, New York University–Bellevue Medical Center, New York, BRYAN WILLIAMS, University of Texas, Dallas, PHILIP R. LEE, Palo Alto Clinic, Palo Alto, California.

155 *pp.*, 5⅜ *x* 8 (1957).....$6.50*m*

This volume presents a carefully edited and correlated report of a conference in this field by some thirty authorities held in New York City during the summer of 1956. Because of the increasing prevalence of cardiovascular disease among our population, this is a problem of great interest to all physicians, personnel directors, and guidance counselors. Presented here is a current analysis of the knowledge of the emotions of persons with cardiovascular disease; the role of the public, the physician, and various health agencies in this rehabilitation; how to teach rehabilitation to the patient; and what types of work he can safely perform. In addition, an insight into the research going on in this field is presented as well as an extensive bibliography.

CONTENTS—Preface. 1. Emotions and the Person with Cardiovascular Disease. 2. Work and the Person with Cardiovascular Disease. 3. The Practice of Cardiovascular Rehabilitation. 4. The Teaching of Cardiovascular Rehabilitation. 5. Research in Cardiovascular Rehabilitation.

Psychiatry

CAMMER—Outline of Psychiatry

By LEONARD CAMMER, M.D., Associate Clinical Professor of Psychiatry, New York Medical College.

398 *pp.*, 6⅛ *x* 8⅛ (1962).....$5.95*m*

An up-to-date teaching and review text, OUTLINE OF PSYCHIATRY covers the theory and practice of psychiatry in a comprehensive, systematized fashion. The primary purpose of the book is to give the reader a clear understanding of the etiology, psychopathology, diagnosis, and treatment of all psychiatric disorders, and is based on medical concepts of psychology, human biology, and several disciplines of behavioral science. The OUTLINE is a clinically oriented textbook that adheres to established medical psychological principles of mental disease processes, relates theory to practice in commonsense medical language, and covers the entire subject in a clear, compact fashion in a language that is plain, explicit, and commonly used in all medical teachings. In addition to the standard classification of diseases adopted by the American Psychiatric Association, the author presents a new etiological classification as a major and original contribution to psychiatric theory and practice, and offers the student a direct correlation between etiology, pathology, and treatment.

CONTENTS—1. Concepts of Mental Disease: Historical Review. 2. Principles of Psychiatry I: Etiological Considerations. 3. Principles of Psychiatry II: Biological Considerations. 4. Psychoanalysis and Psychiatry. 5. Ecology: The Cultural Stress. 6. Psychopathology. 7. Classification of Mental Disorders. 8. Integrative Therapy. Appendix A. Outline for Psychiatric History and Mental Examination. Appendix B. Synopses of Commonly Encountered Clinical Syndromes. Appendix C. Forensic Psychiatry. Appendix D. Contributions to Psychiatry.

DUNBAR—Psychiatry in the Medical Specialties

By FLANDERS DUNBAR, M.D., Med.Sc.D., Ph.D.

514 *pp.*, 6 *x* 9 (1959).....$13.00*m*

This book is designed to acquaint each medical specialist with the psychiatric problems which are likely to be encountered in his office. In addition, since the psychiatrist is also a medical specialist, attention is given to acquainting him with the diagnostic problems of general medicine and to determining the best therapeutic regimen for sufferers from the illness syndromes which account for eighty per cent of mortality, morbidity, and labor wastage. Strong emphasis is placed on problems of differential diagnosis as they are encountered in specialties and in the problem of aging. The importance of recognizing the patient under stress and evaluating and treating the emotional factor in his illness is carefully discussed. This book can serve to stimulate cross fertilization of thinking by improving communications among specialists in medicine and the medical sciences. The book first discusses the changing concepts of disease, then the history of the patient, his illness, the illness syndromes, and the therapy.

CONTENTS—1. Changing Concept of Disease. 2. The Patient. 3. The Patient's Illness. 4. Illness Syndromes: High Fatality. 5. Illness Syndromes: High Disability. Part 1. Regulators of Homeostasis—Behind Illness Syndromes. Part 2. Syndromes Referable to Specific Organ Systems. 6. Illness Syndromes: High Social Incapacity, Mental and Behavioral Disorders. 7. Therapy. 8. The Syndrome of Longevity.

EWALT AND FARNSWORTH—Textbook of Psychiatry

By JACK R. EWALT, M.D., Harvard Medical School, and DANA L. FARNSWORTH, M.D., Harvard University.

381 *pp.*, 6 *x* 9 (1963).....$9.50*m*

A central purpose of this book is to present ways for the physician to utilize psychiatric theory in the management of his patients and in the preventive medical aspects of his practice. The authors give practical suggestions for treatment and, in particular, treatment that can be carried on by the non-psychiatric physician. Drug therapy is discussed in detail. Modern and eclectic in approach. TEXTBOOK OF PSYCHIATRY incorporates the disciplines of biology, psychobiology, and social science within a framework of psychoanalytic concepts.

CONTENTS—The Role of Psychiatry in Medicine. Growth and Development. Genetics and Behavior. Psychoanalytic Concepts of Behavior. Examination. Child Development Problems. Mental Retardation. Psychoneurotic Disorders. Psychophysioloic, Autonomic, and Visceral Disorders. Personality Pattern and Trait Disturbance. Sociopathic Personality Disturbances. Alcoholism. Drug Addiction. Sexual Deviation. Acute Brain Disorders (Toxic Psychoses). Chronic Brain Disorders. Chronic Brain Syndrome Associated with Cerebral Atherosclerosis. Affective Disorders. Involutional Psychoses. Schizophrenic Reactions. Psychotic Disorders: Paranoid Reactions. Psychotherapy. Group Therapy. Drug Therapy. Social Psychiatry. Psychiatry and Education. Psychiatry and Religion. Psychiatry and the Law. Psychiatry in Industry. Working In and With the Community. Rehabilitation. General Reading List. Index.

FARBEROW—The Cry for Help

Edited by NORMAN L. FARBEROW, Ph.D., and EDWIN S. SHNEIDMAN, Ph.D., both Suicide Prevention Center, Los Angeles, California.

398 *pp.*, 5⅝ *x* 8⅜ (1961).....$9.95*m*

This work, a contributed volume, presents basic material on the psycholinguistics of suicide and focuses particular attention on the responses by the community and the individual theoretician-practitioner to the suicidal cry for help. The book proceeds from the point of view that suicidal behavior is a form of communication most often expressing a "Cry for Help" and presents material giving practical community and individual procedures for responding to the cry as well as aids for further understanding of the theoretical considerations.

CONTENTS—PART I. THE COMMUNITY RESPONSE TO THE CRY FOR HELP. 1. Introduction. 2. The Suicide Prevention Center. 3. Statistical Comparisons Between Attempted and Committed Suicides. 4. Emergency Evaluation of Self-destructive Potentiality. 5. The Assessment of Self-destructive Potentiality. 6. Suicide among Schizophrenic Mental Hospital Patients. 7. The Role of the Social Scientist in the Medicolegal Certification of Death from Suicide. 8. Sample Investigations of Equivocal Suicidal Deaths. 9. A Taxonomy of Death—a Psychological Point of View. 10. A Survey of Agencies for the Prevention of Suicide. PART II. THE PSYCHOTHERAPEUTIC RESPONSE TO THE CRY FOR HELP. 11. Introduction and Case History of Mr. A. S. 12. Suicide: Psychoanalytic Point of View. 13. Suicide: Psychoanalytic Point of View. 14. Suicide: The Jungian Point of View. 15. Suicide. The Adlerian Point of View. 16. Suicide: The Sullivanian Point of View. 17. Suicide: The Horney Point of View. 18. Suicide: The Personal Construct Point of View. 19. The Nondirective Handling of Suicidal Behavior. 20. Summary. PART III. BIBLIOGRAPHY. Bibliography on Suicide, 1897–1957.

FEIFEL—The Meaning of Death

Edited by HERMAN FEIFEL, Ph.D., Chief Psychologist, Veterans Administration, Los Angeles.

340 *pp.*, 5⅜ *x* 8, 22 *illus.* (1959)..$7.50*mt*

This book represents the first attempt to come to grips with the problem of death as seen from differing outlooks. The 21 contributors of this book represent the specific fields of medicine, psychiatry, psychology, psychoanalysis, philosophy, anthropology, religion, art, and literature; and present in this work the theoretical outlooks on death, the meaning of death, and the role it plays in man's life from the positions of psychiatry, religion, and philosophy. The book provides a groundwork of information and reflection which illuminate issues and stimulate fresh insights, suggest practical and therapeutic treatment possibilities, and direct the way toward needed research efforts.

CONTENTS—Contributors. Preface. Introduction. PART I. THEORETICAL OUTLOOKS IN DEATH: Carl G. Jung—The Soul and Death. Charles W. Wahl—The Fear of Death. Paul Tillich—The Eternal Now. Walter Kaufman—Existentialism and Death. Herbert Marcuse—The Ideology of Death. PART II. DEVELOPMENTAL ORIENTATION TOWARD DEATH: Maria H. Nagy—The Child's View of Death. Robert Kastenbaum—Time and Death in Adolescence. Herman Feifel—Attitudes Toward Death in Some Normal and Mentally Ill Populations. PART III. DEATH CONCEPT IN CULTURAL AND RELIGIOUS FIELDS: Frederick J. Hoffman—Mortality and Modern Literature. Carla Gotlieb—Modern Art and Death. David G. Mandelbaum—Social Uses of Funeral Rites. Edgar Jackson—Grief and Religion. PART IV. CLINICAL AND EXPERIMENTAL STUDIES: Arnold A. Hutschnecker—Personality Factors in Dying Patients. Gerald J. Aronson—Treatment of the Dying Person. August M. Kasper—The Doctor and Death. Irving E. Alexander and Arthur M. Aldlerstein—Death and Religion. Edwin S. Shneidman and Norman L. Farberow—Suicide and Death. Curt P. Richter—The Phenomenon of Unexplained Sudden Death in Animals and Man. PART V. DISCUSSION: Gardner Murphy—Discussion. Index.

FLACH AND REGAN—Chemotherapy in Emotional Disorders

The Psychotherapeutic Use of Somatic Treatment

By FREDERIC F. FLACH, M.D., and PETER F. REGAN, III, M.D.

314 *pp.*, 6 *x* 9 (1960).....$11.00*m*

Chemotherapy in Emotional Disorders is designed to increase the effectiveness with which clinicians in psychiatry and other fields of medicine employ physiological treatments, in particular the newer psychopharmacologic agents, in the treatment of patients with various emotional disturbances. Moreover, it provides a basis for integration of somatic treatment with psychotherapy in the management of psychiatric patients. This work is divided into three sections. The first part discusses those factors which must be considered in the evaluation of each patient for treatment; namely, diagnosis, the presence of particular emotions and specific psychopathologic symptoms, and the dynamic setting in which the illness occurs. In the second part of the book the various somatic treatment such as phenothiazine drugs, meprobamate, hormones, electric convulsive therapy, and antidepressive agents are described in detail. The third section integrates this material to illustrate the manner in which pharmacologic treatments can be used to enhance psychotherapy.

CONTENTS—PART I: The Evaluation of the Patient for Treatment. 1. Principles of Psychiatric Treatment. 2. Diagnostic Considerations. 3. Pathologic Emotions, Moods and Sexual Unrest. 4. Associated Psychopathologic Factors. 5. The Dynamic Setting of Illness. PART II: The Clinical Effectiveness of Somatic Therapies. 6. The Phenothiazines. 7. Reserpine. 8. The Barbiturates. 9. Meprobamate. 10. Electric Convulsive Treatment. 11. Stimulants and Antidepressive Agents. 12. Insulin Treatment and Lobotomy. 13. Endocrine Therapy. 14. Miscellaneous Drugs. PART III: The Integration of Treatment Methods. 15. The Treatment of Psychoneurotic Reactions. 16. The Treatment of Schizophrenic Reactions. 17. The Treatment of Affective Reactions. 18. The Treatment of Paranoid Reactions. 19. The Treatment of Personality Disorders. 20. The Treatment of Organic Reactions.

GRINKER AND ROBBINS—Psychosomatic Case Book

By ROY R. GRINKER, Michael Reese Hospital, and FRED P. ROBBINS, Michael Reese Hospital and the Chicago Institute for Psychoanalysis.

346 *pp.*, 6 *x* 9⅜ (1954).....$7.00*m*

The basic principles of a psychosomatic approach in medicine are introduced in this book by the presentation of clinical histories of patients suffering with various common diseases. Seventy-nine cases illustrating representative syndromes are included.

GROTJAHN—Beyond Laughter

A Psychoanalytic Approach to Humor, Wit, and the Comic

By MARTIN GROTJAHN, M.D., University of Southern California.

285 *pp.*, 6 *x* 9, *illus.* (1957).....$6.95*mt*

Dr. Grotjahn's book is a systematic attempt to describe the psychoanalysis of problems relating to wit, humor, and the funny, taking the rarely used approach of investigating the borderline field where psychoanalysis and literature overlap. After presenting basic concepts, the author discusses certain special aspects of the analytical interpretation of humor: the development of the sense of the funny in the child; the psychodynamic origin of Comedy, Clowns, Burlesque Queens, and the Circus; of Ferdinand the Bull; of Kilroy and Superman; of Mickey Mouse and the Halloween customs. The analysis of the uncanny and the mystery story leads to an understanding of symbols of Sex and Death and Crime. Finally an analysis of the difference between the ridiculous and the sublime is attempted. The meaning and importance of fantasy are stressed.

JOHNSON—Group Therapy

By JAMES A. JOHNSON, M.D., Emory University, School of Medicine.

467 *pp.*, 6 *x* 9 (1963).....$10.95*m*

Presented here is a workable model for the therapist to use in organizing, orienting, and conducting a group. Adaptable by anyone using the group method in the treatment of people, this model is based on the psychodynamic understanding of human group behavior. One entire chapter is devoted to detailed analysis of an actual group's behavior over a period of 19 months. The author discusses the content, theme, and dynamics of each meeting and examines the role of the therapist from a constructive and critical viewpoint. In another important chapter, there is discussion of separation anxiety, which occurs in group relationships.

CONTENTS—Preface. Introduction. The Development, Structure, and Therapeutic Use of Group Behavior. The Dynamics of Group Therapy. The Group Contract. The Psychodynamics of Separation: Its Relationship to Group Therapy Reality Events and the Termination of Group Therapy. Silence and Acting Out in Group Therapy. An Illustrative Analysis of an Outpatient Group. Group Therapy in Schizophrenic, Manic Depressive, and Chronic Psychotic Depressive Reactions. Hospital Ward Meetings: A Therapeutic Group Activity. Index.

LIPPMAN—Treatment of the Child in Emotional Conflict

By HYMAN S. LIPPMAN, M.D., University of Minnesota Medical School. Second Edition.

367 *pp.*, 5⅝ *x* 8⅜ (1962).....$9.50*m*

Valuable information about methods of treatment is furnished in this book for everyone engaged in intensive therapeutic work with emotionally disturbed children. This work describes the techniques most helpful in promoting greater understanding of emotional disturbances in children, with emphasis placed on the importance in therapy of the relationship between the child and the therapist. Several new subjects have been added to the second edition of Dr. Lippman's book. The chapter on reading disabilities is new, and a new chapter on group therapy has been added to this book because of the important contribution group work has made to the understanding and management of emotional problems. Because of the importance of dream analysis in grasping quickly the child's conscious and unconscious fantasies, this material has been included as one of the new chapters in the second edition.

CONTENTS—1. Approach to Therapy. 2. Group Therapy with Children. 3. The Neurotic Child. 4. The Child with Learning Problems. 5. The Child with Personality Problems. 6. The Child Who Acts Out. 7. The Child with a Tenuous Hold on Reality. 8. The Problem of Prevention. 9. Some Principles of Therapy.

MacGREGOR ET AL—Multiple Impact Therapy with Families

By ROBERT MACGREGOR, Ph.D., University of Texas Medical Branch; AGNES M. RITCHIE, M.S.W., University of Texas Medical Branch; ALBERTO C. SERRANO, M.D., University of Texas Medical Branch; FRANKLIN P.

SCHUSTER, JR., M.D. Under the direction of EUGENE C. MCDANALD, JR., M.D., and HAROLD A. GOOLISHIAN, Ph.D.
In Press

Presented here is a new method of family therapy known as Multiple Impact Therapy. The method is based on the relationship between a multidiscipline therapy team (psychiatrists, psychologists, social worker) and the family with a disturbed adolescent. Reporting their experiences with 62 such families, the team-authors present results of therapy and the observations on clinical and theoretical matters made possible by their entre into the lives of these families. The authors show how in the Multiple Impact Therapy approach, they make use of individual therapy, group therapy, multiple, and methods from the industrial staff development workshop and the intergroup relations workshop.

CONTENTS—Foreword. Preface. The Development of a Family Therapy. Illustration of the Method. Description and Discussion of the Method. The Adolescents and Their Families. Family Dynamics and Therapeutic Movement. What We Have Learned about Teams. Results. Appendix A: The Dyal Family. Appendix B: Chapter Notes. Index of Cases. Index.

McLEAN AND TAYLOR—Mental Health in Industry

By ALAN A. MCLEAN, M.D., International Business Machines Corporation; Cornell University Medical College, and GRAHAM C. TAYLOR, M.D., McGill University; formerly Jones and Laughlin Steel Corporation.

262 *pp.*, 6 *x* 9 (1958) $7.50*i*

The authors state the purpose of this excellent work in their preface as follows, "In this book we introduce a positive approach to the maintenance of industrial mental health. This book is written as a guide for people at various levels of management who formulate policies and procedures which affect the mental health of their employees." Personality problems and personality characteristics are discussed within the setting of industrial society and with an accent on mental health maintenance within the industrial structure. While the themes throughout appear to emphasize large corporate industry, the problems discussed also face the smaller business organization. Particular attention is paid to the handling of emotionally disturbed employees returning to work following an acute mental illness. Material is covered in such a way as to make the book practical to both management personnel and doctors concerned with industrial mental health.

CONTENTS—1. Psychiatry in Industry. 2. The Psychiatrist in Industry. 3. The Meaning of Work. 4. Social Stresses in Industry. 5. Capitalizing on Personality Traits. 6. What Price Human Relations. 7. The Executive Dilemma. 8. The Man in the Middle. 9. The Hourly Employee. 10. The Alcoholic. 11. Accidents, Compensation, and Safety Programs. 12. The Disturbed Employee. 13. Return to Work. 14. Interviewing. 15. Psychological Testing. 16. Programming Industrial Mental Health.

MILLER AND BARUCH—The Practice of Psychosomatic Medicine

As Illustrated in Allergy

By HYMAN MILLER, University of California at Los Angeles Medical School, and DOROTHY W. BARUCH.

196 *pp.*, 6 *x* 9 (1956) $7.95*m*

What emotional factors enter into physical illness—as exemplified in such diseases as asthma, hay fever, and eczema? How can the physician treat these emotional factors? These two vital questions are answered in a warm and practical way in this book. The authors show the general psychologic pattern—striking in its consistency—of the allergic patient, and through this illustration show how psychologic factors enter into other illnesses. Then they show how the physician, using his knowledge of this pattern, can define and fulfill his objectives in psychologic treatment. Through abundant case histories and word-for-word diagnostic and therapeutic interviews, Dr. Miller and Dr. Baruch give practical guidance in treatment.

SHNEIDMAN AND FARBEROW—Clues to Suicide

Edited by EDWIN S. SHNEIDMAN, VA Neuropsychiatric Hospital, Los Angles, California, and University of Southern California, and NORMAN L. FARBEROW, VA Mental Hygiene Clinic, Los Angeles, California, and University of California at Los Angeles. Foreword by KARL A. MENNINGER.

227 *pp.*, 5⅜ *x* 8⅝ (1957) $6.50*mt*
*McG-H Paperbacks Ed.**

This book presents theoretical and practical efforts in meeting the problem of suicide—one of the ten most common killers. A unique feature of the book is the appendix which consists of 33 genuine suicide notes matched (by age and occupation) with 33 simulated notes elicited from nonsuicidal individuals from community sources. These 33 pairs of notes are printed verbatim. For convenient reference the book is divided into two parts. Part I treats of the Theoretical and Experimental and Part II covers the Treatment and Management of suicidal cases. The book was written to help the scientist in human behavior to understand, predict, and prevent one of the most serious sociopsychological phenomena; to give clues to the practitioner for the recognition and control of potential suicides; and to stimulate a concerted attack, by all persons interested and concerned with this kind of symptom of personal-social difficulty, which might result in an organized public campaign against it.

CONTENTS—PART I. THEORETICAL AND EXPERIMENTAL CONSIDERATIONS. Clues to Suicide. Theories of Suicide. Suicide as a Magical Act. The Logic of Suicide. Suicide and Age. Some Aspects of the Meaning of Death. The Sociology of Suicide. Suicide in a Catholic Country. PART II. CLINICAL CONSIDERATIONS. Suicide and Law. Psychotherapy of the Suicidal Patient. Some Aspects of the Treatment of the Potentially Suicidal Patient. The Suicidal Crisis in Psychotherapy. The Recognition and Treatment of Suicide in Children. Suicide in Old Age. Suicide in a General Hospital. Observations on Attempted Suicide. Psychologic and Social Work Clues to Suicide in a Schizophrenic Patient. Suggestions for Suicide Prevention. Postscript. APPENDIX: Genuine and Simulated Suicide Notes.

* *Available only through your local bookstore.*

SROLE, LANGNER, MICHAEL, OPLER, AND RENNIE—Mental Health in the Metropolis

The Midtown Manhattan Study

By LEO SROLE, Ph.D., State University of New York Downstate Medical Center, THOMAS S. LANGNER, Ph.D., Cornell University Medical College, STANLEY T. MICHAEL, M.D., Cornell University Medical College, MARVIN K. OPLER, Ph.D., University of Buffalo School of Medicine, and THOMAS A. RENNIE, M.D., deceased.

428 *pp.*, 6 *x* 9, *illus.* (1962) $9.95*m*

In this book Manhattan, for the first time, comes under the collaborative scrutiny of a team of social scientists and psychiatrists with the material presented based on the eight-year research study of the Midtown section of the

population. Applying a battery of research methods that have been previously used only on smaller cities and towns, the authors go behind the facades of Midtown's towering Gold Coast apartment houses and congested slum tenements to reveal what the area is like as a place to live, what kinds of people choose to make their homes here, and what manner of a community and psychological climate they create. Indentified in these groups are not only the conditions clinically known to psychiatrists, but also the state of mental well-being and the sub-clinical varieties of symptomatic distress.

CONTENTS—PART I: Prologue. PART II: Midtown Portrait. PART III: Midtown Mental Health Composition and Psychiatric Care. PART IV: Epilogue. PART V: Appendixes.

TALLMAN—Treatment of Emotional Problems in Office Practice

By FRANK F. TALLMAN, M.D., *UCLA Med. Exten. Series.*

426 *pp.*, 5⅜ *x* 8 (1961).....$11.00*m*

This book, written for physicians who are anxious to gain greater skill in the diagnosis, management, and treatment of patients with emotional problems, stresses those therapeutic methods which can be applied in office practice. This is a "how-to-do-it" book which helps the physician to use and develop additional techniques as well as explaining how to avoid attitudes and methods which work to the disadvantage of patients. The role of emotional problems in initiating or intensifying, among others, such complaints as backache, headache, exhaustion, gastro-intestinal disorders, functional cardiac distress, asthma, and genitourinary or gynecologic disorders is explained and recommendations are made for handling patients with these conditions. Throughout the text the author has emphasized those aspects of the subject which are most important to the practicing physician, whatever his particular field of specialization. Psychiatric concepts for the non-psychiatric professional groups are interpreted and are followed by case histories which illustrate the various emotional problems encountered in the office.

CONTENTS—Personality Growth and Function. Symptom Formation. Case Presentations. Diagnosis and Treatment Methods.

VANDERVELDT AND ODENWALD—Psychiatry and Catholicism

By JAMES H. VANDERVELDT, O.F.M., Ph.D., formerly The Catholic University of America, and Trinity College, Washington, D.C., and ROBERT P. ODENWALD, M.D., F.A.P.A., Former Director of the Child Center and The Catholic University of America. Second Edition.

474 *pp.*, 6 *x* 9 (1957).....$8.75*t*†

In this edition the authors have greatly expanded and brought up to date the material contained in this work. Of special note is the extensive use of the directives of Pope Pius XII on psychiatry and psychotherapy according to the allocutions of His Holiness which appeared after the publication of the first edition. The complete range of psychiatric disorders is treated in clear and understandable language. The most recent developments and trends in psychotherapy are discussed in greater detail than in the first edition and the book includes extensive material on the new drugs, especially the tranquilizers. Modern ideas about lobotomy, electroshock treatment and the possible biochemical cause of mental disease are presented.

CONTENTS—Person and Personality. The Moral Law, Conscience, and Responsibility. Historical Development of the Concept of Mental Disorders. The Psychosomatic Concept of Disease. Physicochemical Methods of Therapy. Psychotherapy. Symptomatic Methods of Psychotherapy. Freudian Psychoanalysis. Evaluation of Psychoanalysis. Development of Depth Psychology. New Trends in Psychotherapy. Psychodynamics. The Psychological Method. Religion and Psychiatry. The Priest and Mental Health. Clinical Psychology and Social Work. Counseling. Psychoses. Epileptic Psychoses and Other Psychoses with Organic Basis. Mental Deficiency. Psychoneuroses. Psychopathic Personalities. Scrupulosity. Alcoholism. Masturbation. Frigidity, and Impotence. Homosexuality. Sex Education. Psychiatric and Psychological Aspects of Marriage Problems.

Surgery

AL AKL—Surgical Technigrams

By F. M. AL AKL, M.D., Kings County Hospital Medical Center.

341 *pp.*, 7¼ *x* 9⅞, 671 *illus.* (1954) $14.50*m*

Emphasizing the technical aspect of anatomy as seen through the surgeon's eye, this book is a concise, quick reference on the anatomechanics of surgery. The techniques of the basic surgical procedures are demonstrated and described step-by-step in illustrated atlas form. The lucid illustrations were chosen to depict anatomical structure from the viewpoint of the surgeon and are the primary feature of the book. Each procedure is accompanied by extensive notes describing the normal anatomical situation and emphasizing the surgical risks attending anatomical anomalies. All operative variables, such as preoperative preparation, anesthesia, and suture material, have been eliminated in the interests of an immediate and succinct presentation of the technique itself.

BARKER—Surgical Treatment of Peripheral Vascular Disease

Edited by WILEY F. BARKER, M.D., University of California (Los Angeles) School of Medicine. *UCLA Med. Exten. Series.*

336 *pp.*, 6 *x* 9, 94 *illus.* (1962)....$12.95*m*

Intended to supply the practitioner with useful information and the opinions of authorities, *Surgical Treatment of Peripheral Vascular Disease* is a concise presentation of the diagnosis and practical management of the more common peripheral vascular diseases. Emphasis is on the conservative surgical management currently in vogue and its relationship to internal medical management. Details of a technical nature are included in those chapters where such inclusion seemed pertinent and useful. The book is written by ten experts in this field and carefully edited by Dr. Barker for consistency of treatment and style. Each chapter is designed to facilitate a rapid rundown on the subject presented with the inclusion of the etiology, symptoms and signs, diagnosis, surgical treatment, clinical results, and references. Included in this work are chapters on the physiology of peripheral circulation, atherosclerosis, the medical management of peripheral vascular disease, venous thromboembolic disease, varicose veins, shoulder girdle syndromes, and arterial occlusive disease.

CONTENTS—1. Physiology of the Peripheral Circulation. 2. Nutritional, Hormonal, and Mechanical Factors in Atherosclerosis. 3. Medical Management of Peripheral Vascular Disease. 4. Venous Thromboembolic Disease. 5. Varicose Veins and the Postphlebitic Syndrome. 6. Anatomic and Clinical Comments on Shoulder Girdle Syndromes. 7. Clinical

Evaluation of Arterial Occlusive Disease. 8. Lumbar Sympathectomy. 9. Vascular Insufficiency of the Arm. 10. Vascular Prostheses. 11. Aortoiliac Obstruction. 12. Treatment of Chronic Occlusive Disease of the Femoral Artery. 13. Arterial Embolism: Acute Arterial Occlusion. 14. Abdominal and Peripheral Aneurysms. 15. Thoracic Aneurysms. 16. Surgery for Renal and Cerebral Arterial Insufficiency. 17. Surgery for Intestinal Arterial Insufficiency. 18. Coronary Artery Disease. 19. Amputation in Peripheral Vascular Disease.

BARSKY, KAHN, AND SIMON—Principles and Practice of Plastic Surgery, 2nd Ed.

By ARTHUR JOSEPH BARSKY, M.D.; SIDNEY KAHN, M.D.; and BERNARD E. SIMON, M.D.

In Press

A revised and expanded version, this volume is a comprehensive guide to this field based on the vast clinical and Army experience of the authors. Emphasis is on the fundamental principles of plastic surgery with clear descriptions of practices and procedures in the specialty. Particular attention is paid to such problems as speech therapy, radiation injuries and hand surgery.

BICK—Trauma in the Aged

Edited by EDGAR M. BICK, M.D.

524 *pp.*, 6 *x* 9, *illus.* (1960).....$16.50*m*

This comprehensive work, written by recognized authorities in the field of trauma, presents a survey of the various trauma to which the aged are especially susceptible. The peculiar reactions of the aged to ordinary trauma are also considered. Where therapy for the aged differs from therapy for younger individuals, specific treatment is presented and the practitioner is guided in the selection of those methods best suited to this particular group of patients.

Dr. Edgar Bick, the editor, has developed a most complete and useful volume on the subject, considering first the pathologic physiology involved in trauma including such topics as shock, wound healing, etc. This is followed by a section on musculo-skeletal trauma including the topics of fractures, dislocations, and tendon injuries—all very important because of the incidence of falls in the aged. The third part of the book is devoted to visceral trauma, particularly wounds and other trauma to the abdomen and thorax; with the crush syndrome, vascular trauma, and craniocerebral injuries being considered in part four. To round out this comprehensive work, Dr. M. Peszczynski has authored an especially fine chapter on rehabilitation considering both the physical and psychologic factors involved.

CONTENTS—PART I. PATHOLOGIC PHYSIOLOGY OF TRAUMA IN THE AGED. 1. Traumatic Shock. 2. Preoperative Care and Postoperative Supportive Therapy. 3. Anesthesia. 4. Wound Healing and Reparative Osteogenesis. 5. Treatment of Burns. PART II. MUSCULOSKELETAL TRAUMA IN THE AGED. 6. Fractures of the Extremities. 7. Fractures of the Vertebrae. 8. Fractures of the Hip. 9. Fracture Dislocations of the Hip. 10. Fractures of the Pelvis. 11. Dislocations and Other Traumatic Lesions of the Joints. 12. Tendon Injuries and Hand Trauma. PART III. VISCERAL TRAUMA IN THE AGED. 13. Wounds and Other Trauma of the Abdomen. 14. Trauma to the Thorax and Rib Cage. 15. Traumatic Lesions of the Genitourinary Tract. PART IV. INJURIES TO THE AGED SOMATIC TISSUE. 16. Crush Syndrome. 17. Craniocerebral Injuries. 18. Vascular and Cardiac Trauma. 19. Injuries of the Face and Neck. PART V. REHABILITATION. 20. Posttraumatic Rehabilitation. INDEX.

BLAIR—Clinical Hypothermia

By EMIL BLAIR, M.D., University of Maryland Medical School.

In Press

The role of hypothermia in medicine, and particularly in surgery, is discussed here. The book includes a thorough section on Physiology of Hypothermia which deals with such topics as Temperature Regulation, Temperature Gradients, Metabolism, Circulation, and Ventilation. These aspects are then related to specific clinical conditions such as Cardiovascular Surgery, Neurosurgery, Shock and Trauma, and Obstetrical-Gynecological conditions, among others. Consideration is also given to complications which occur in surgery, Methods (Surface Contact Cooling, Blood Stream Cooling), the Management of Hypothermia, and the Future of Hypothermia.

GLENN, MOORE, AND BEAL—Surgery in the Aged

Edited by FRANK GLENN, M.D., S. W. MOORE, M.D., and JOHN M. BEAL, M.D.

534 *pp.*, 7¼ *x* 9⅞, *illus.* (1960)....$19.00*m*

A "first" in medical literature, this work presents the combined knowledge of the surgical staff at The New York Hospital-Cornell Medical Center on the surgical treatment of patients over 60 years of age. As the material was brought together in the thirty chapters of this book, the importance of surgical therapy for the aged in over-all practice became increasingly evident.

Beginning with a section on fundamental considerations such as metabolic problems, infections, preoperative evaluation, anesthesia, and postoperative care, the authors then discuss specific surgical problems including surgery of the thorax and thoracic wall, cardiovascular surgery, gastrointestinal surgery, surgery of the biliary tract and liver, surgery of the genitourinary tract, surgery of special systems, and trauma and reconstructive surgery. As a new and needed reference in a rapidly expanding medical field, this work is a definite contribution. It is comprehensive in nature yet practical, emphasizing the risks involved and the results that can be expected. SURGERY IN THE AGED is a well illustrated book with detailed clinical records, patient photographs, and case histories.

CONTENTS—PART I. FUNDAMENTAL CONCEPTS. 1. Physiologic and Metabolic Problems. 2. Surgical Infections. 3. Preoperative Evaluation and Preparation for Surgery. 4. Anesthesia. 5. Postoperative Care and Management. PART II. SURGERY OF THE THORAX AND THORACIC WALL. 6. Cancer of the Breast. 7. Cancer of the Lung. 8. Cancer of the Esophagus. 9. Cardiospasm. 10. Diaphragmatic Hernia. PART III. CARDIOVASCULAR SURGERY. 11. Cardiac Surgery. 12. Abdominal Aortic Aneurysm. PART IV. GASTROINTESTINAL SURGERY. 13. Peptic Ulcer. 14. Cancer of the Stomach. 15. Acute Appendicitis. 16. Cancer of the Colon and Rectum. 17. Diverticulitis. 18. Intestinal Obstruction. 19. Hernia. PART V. SURGERY OF THE BILIARY TRACT AND LIVER. 20. Gallbladder and Biliary Tract. 21. Liver Diseases. PART VI. SURGERY OF THE GENITOURINARY TRACT. 22. Renal Calculi and Tumors. 23. Cancer of the Penis and Peyronie's Disease. 24. Cancer of the Prostate and Benign Prostatic Hypertrophy. 25. Vesical Neoplasms. PART VII. SURGERY OF SPECIAL SYSTEMS. 26. Neurosurgery. 27. Ophthalmologic Surgery. 28. Otolaryngologic Surgery. PART VIII. TRAUMA AND RECONSTRUCTIVE SURGERY. 29. Trauma. 30. Plastic and Reconstructive Surgery.

ISELIN—Atlas of Hand Surgery

By MARC ISELIN, M.D. Translated by JOHN C. COLWILL, M.D.

In Press

A translation of a very successful and useful French work by Dr. Iselin, this book clearly demonstrates the basic techniques of hand surgery. The anatomy and physiology of the hand and wrist are described and related to problems of repair. Methods of treatment to be followed in injuries to bone and soft tissues,

in secondary repair and in various acquired afflictions of the hand, including congenital deformities of the fingers are included.

LOCKWOOD—Atlas of Anorectal Surgery
By RICHARD A. LOCKWOOD, M.D.
In Press

This is the first atlas of anorectal surgery to be published. It is designed as a practical guide for the non-specialist in proctology who includes anorectal procedures in his surgical repertory, and for the intern and resident as a practical foundation upon which to build experience in anorectal surgery. This atlas is geared entirely to a discussion of proctological clinical problems. Text material has been limited to practical clinical considerations, emphasis on basic principles of anorectal surgery, and discussion of the rationale behind the surgical steps illustrated.

LEWIS—The Surgery of Scars
By JOHN RANSOM LEWIS, JR., M.D., Emory University School of Medicine.
201 *pp.*, 7¼ *x* 9⅞, 811 *illus.* (1963)
$16.00*m*

This monograph deals with the mechanism of scar-tissue formation, the problems caused by an overgrowth of scar tissue, and the complications presented by scars. The author discusses elective incisions and repair techniques to minimize scar formation, and suggests solutions to the problems caused by scars in various areas of the body. Hypertrophic scars and keloids are given special attention, as well as contracted scars. The author discusses functional impairment and cosmetic aspects and the procedures for reconstructing parts of the body, such as an ear, a finger, or the penis. CONTENTS—Preface. The Psychology of Patient and Surgeon. Anatomy and Physiology. Instruments. Anesthesia. The Traumatic Wound. Surgical Incisions. Technique of Layer Repair. Scars: General Information. Hypertrophic Scars and Keloids. Procedures Useful in the Repair of Scars. Repair Problems Peculiar to the Head and Neck. Repair Problems Peculiar to the Body. Surgical Abrasion. Chemical Smoothing. Postoperative Care and Complications. Medicolegal Aspects. Epilogue: Some Maxims for the Surgeon. Index.

MARCUS AND ZIMMERMAN—Principles of Surgical Practice
By EMANUEL MARCUS, M.D., and LEO M. ZIMMERMAN, M.D.
430 *pp.*, 7¼ *x* 9⅞, *illus.* (1960) $12.50*m*

This work is based on the authors' course as taught at the Chicago Medical School, and stresses basic surgical principles. *Principles of Surgical Practice* correlates previously isolated basic science disciplines (Anatomy, Physiology, Microbiology, Biochemistry, and Pathology) into a meaningful approach to clinical practice. The authors have purposely omitted surgical technic material in this book in order to present an unconfused exposition of those principles which are fundamental to good surgical practice. Each chapter is introduced by an outline which permits the student to realize at a glance the relative importance of any particular statement or exposition to the subject as a whole. Subheads in the text follow the general topics in the outline which facilitates the students' use of the book. Each chapter is concluded with a summary which correlates with the outline and text emphasizing those points which are particularly important to an understanding of the practice of surgery. The book is admirably suited for practitioner as well as student use. It is an excellent review of principles for physicians about to take board exams and for practitioners who desire a more thorough understanding of the relationship of basic science information to actual practice procedures. CONTENTS—1. Inflammation and Wound Healing. 2. Surgical Microbiology and The Management of Infection. 3. The Management of Wounds. 4. Shock. 5. Parenteral Alimentation; Fluid-Electrolyte and Acid-Base Balance; Protein Metabolism and Nutrition. 6. Thermal, Chemical, Electric, and Actinic (Radiation) Burns and Injuries. 7. Fractures and Amputations. 8. Craniocerebral Injuries. 9. The Autonomic Nervous System. 10. Peripheral Vascular Diseases: Arterial. 11. Peripheral Vascular Diseases: Venous and Lymphatic. 12. The Total Management of the Surgical Patient: The Preoperative, Operative, and Postoperative Periods. 13. The Thyroid. 14. Masses and Swellings in the Neck. 15. The Breast. 16. Introduction to Surgery of Pulmonary and Bronchial Diseases; Pulmonary Atelectasis. 17. Wounds of the Thorax and Surgery of the Pleural Space. 18. Tumors of the Lungs and Bronchi. 19. Pulmonary Infections. 20. Surgery of Mediastinal Viscera. 21. The Lip, Tongue, Mouth, Palate, and Pharynx. 22. The Esophagus. 23. Anomalies and Malformations of the Alimentary System. 24. The Stomach and Duodenum. 25. The Small Intestine (The Jejunum and Ileum). 26. Appendicitis. 27. The Colon. 28. Intestinal Obstruction. 29. Peritonitis. 30. The Rectum and Anus (The Anorectum). 31. The Management of Gastrointestinal Hemorrhage. 32. The Extrahepatic Biliary System: The Metabolism of Bile; Jaundice. 33. Diseases of the Liver (Including Hepatic Ascites and Extrahepatic Portal Hypertension). 34. The Pancreas. 35. The Spleen. 36. Hernia.

REHMAN AND HIATT—Atlas of Surgical and Applied Anatomy
By IRVING REHMAN, Ph.D., University of Southern California; and NATHAN HIATT, M.D., Cedars of Lebanon Hospital, Los Angeles.
In Press

A first of its kind in medical publishing, this work contains 112 colored plates of actual surgical exposures on "fresh" bodies, rather than cadavers as usually found in other books. Thus this Atlas shows what the surgeon actually sees in the operating room, not in the morgue or anatomy laboratory. Covering 234 anatomical landmarks, the Atlas is a highly authoritative volume with emphasis on regional anatomy based on actual surgical procedures.

ROTHENBERG—Reoperative Surgery
Edited by ROBERT E. ROTHENBERG, M.D., New York City.
In Press

Problems which the surgeon faces in the second operative procedure are discussed here by authorities such as Drs. George Crile (Cleve. Clinic), Amos Koontz (Johns Hopkins), Eugene Derlacki (Northwestern), William Altemeier (Cincinnati), A. W. Humphries (Cleve. Clinic), Townley Paton (Manhattan Eye and Ear), George Nardi (Harvard), Claude Welch (Harvard), Michael Newton (Miss.), Hartwell Harrison (Harvard), Warren Cole (Northwestern), Brian Blades (George Washington), and others. Each of these men writes on reoperative procedures in his particular surgical specialty. In addition to material on procedures, there are chapters on such basic considerations as Pre- and Post-Operative Care, Anesthesia, Recurrent Infections, and Wound Healing.

STORER, PATE, AND SHERMAN—The Science of Surgery
By EDWARD H. STORER, M.D.; JAMES W. PATE, M.D.; and ROGER T. SHERMAN, M.D., all of School of Medicine, University of Tennessee.
In Press

Designed to give the student basic information in his early contact with surgery, this book is

also intended to encourage continued and permanent interest in surgery. The authors have deviated from presentation of fact to discuss useful hypotheses on subjects still in question, and to stimulate the student to apply critical and logical evaluation to the opinions of tradition, which may conflict with scientific evidence.

CONTENTS—Introduction. Wounds. Surgical Infections—Systematic Response to Illness. Water, Salt and pH. Shock. Blood Volume Replacement. Burns. Thyroid, Parathyroids and Adrenals. Abnormalities of Cellular Growth. Breasts. Head, Neck and Soft Tissues. Cardiovascular System—General Considerations. Congenital Heart Disease. Acquired Heart Disease. Arteries. Veins and Lymphatics. Respiratory System—General Considerations. Chest Injuries. Chest Wall, Diaphragm and Pleura. Tracheobronchial Tree. Lung—Infections. Lung—Neoplasms. Mediastinum. Esophagus. Digestive System—General Considerations. Stomach and Duodenum. Liver and Biliary Tract. Pancreas. Spleen. Small Intestine. Colon, Rectum and Anus. Disorders of Visceral Circulation. Hernia. Digestive System—Differential Diagnosis. Multiple Systems Injuries. Mass Casualties.

WESOLOWSKI AND DENNIS—Fundamentals of Vascular Grafting

Edited by SIGMUND A. WESOLOWSKI, M.D., and CLARENCE DENNIS, M.D., both of Downstate Medical Center, New York.

500 *pp.*, 6 *x* 9, *illus.* (1963).....$22.50*m*

Based on results of a conference sponsored by the New York Downstate Medical Center, which featured internationally recognized authorities in the field, this books covers the fundamentals concerned with the problem of arterial reconstruction. The book is a compilation of their presentations on all aspects of vascular grafting. Discussions follow each of the major topics, thus providing current and complete information for surgeons, cardiologists, senior medical students, and residents.

CONTENTS—Foreword. Preface. Ion Metabolism of the Blood Vessel Wall. Enzyme Chemistry of the Vascular Wall. Lipids of the Vascular Wall. Some Aspects of the Metabolism and Ultrastructure of Human and Animal Intimal Lining. Reaction of the Aortic Wall to Specific Injurants. Designing Prosthetic Vascular Grafts. Materials. Methods, Machinery, and Processing of Prosthetic Vascular Grafts. Fundamental Problems in Development of Prosthetic Vascular Grafts. An Elastic Dacron Arterial Prostheses. First Decade of Experience in the Use of Permeable Arterial Prosthesis: From Inception to Practice. Lining of Vascular Homografts and Prostheses. Use of Autogenous Tissues as Arterial Grafts. Introduction to the Concept of "Autogenization" of Vascular Prostheses. Experimental Evaluation of Arterial Homografts. Arterial Heterografts and Their Modifications. Fate of Simple and Compound Arterial Prostheses: Experimental and Human Observations. Experimental Grafting of the Venous System. Experimental Grafting into the Pulmonary Artery. History of Arterial Grafting. Autogenous Venous Grafts. Arterial Homografts. Use of Crimped, Knitted Dacron Grafts in Patients with Occlusive Disease of the Aorta, of the Iliac, Femoral, and Popliteal Arteries. Clinical Experience with Teflon Grafts. Graft Replacement of the Venous System. A Survey of Lower Extremity Arteriosclerosis. Index.

Urology

CLARKE AND DEL GUERCIO—Urology

By B. G. CLARKE, Tufts University School of Medicine, and LOUIS R. M. DEL GUERCIO, St. Vincent's Hospital.

245 *pp.*, 6 *x* 9, 162 *illus.* (1956).....$6.50*m*

A text and reference on the essentials of urology, this book presents this science as an area within the study of general biology and medicine, rather than as a specialty. The book is brief enough to be read during an undergraduate course or to be used in review, and is unique in its free use of diagrams and pictures in place of detailed written descriptions. An important feature of the book is its collection of X-rays and photomicrographs from typical cases of disorders, accompanied by the patients' histories—material which amplifies the text in much the same way as a series of short clinics on the commoner urogenital diseases. The many line drawings, most of them original, which present some of the more important anatomical and surgical principles in urology, are particularly helpful.

CREEVY—Outline of Urology

By C. D. CREEVY, M.D., Univeristy of Minnesota Medical School.

In Press

In this outline, the author presents a concise discussion of urology, including the study, diagnosis, and treatment of anomalies and disorders affecting the urinary tract and the male genitalia. Anatomy, physiology, physical diagnosis and pathology are correlated throughout. An outstanding feature of this outline is the excellent quality of the illustrative material, both half-tone and line, with many superb x-ray pictures.

TURNER—Office Urology

Edited by RODERICK D. TURNER, M.D., UCLA Medical Center.

354 *pp.*, 6 *x* 9, 156 *illus.* (1963)....$13.50*m*

Problems of a urological nature which the physician encounters daily are dealt with in this book from a thoroughly practical point of view. A number of outstanding authorities in the field discuss such topics as history and physical examination, office laboratory procedures, interpretation of urological x-rays, female urology, endoscopy, minor office surgery on males and females, management of urinary tract infections, urethral, kidney and bladder disorders, pediatric urology, and male infertility. Of note is the chapter on the care of the neurogenic bladder.

CONTENTS—Foreword. Preface. The Patient as a Person. History and Physical Examination. Office Laboratory Procedures. The Interpretation of Urologic X-Rays. Radiation Exposure in Urology. Equipment for Diagnosis and Therapy. Hematuria. Urinary Tract Infection. Kidney Function Tests. Cutaneous Lesions of the Genitalia. Chronic Prostatitis and Prostatism. The Hard, Nodular Prostate. Instrumentation of the Urethra in the Male. Minor Urologic Surgical Procedures in Males. Inflammatory Diseases of the Urethra and Bladder in the Female. Instrumentation and Minor Surgical Procedures of the Female Urethra. Minor Endoscopic Procedures. The Care and Management of Indwelling Kidney, Bladder, and Urethral Catheters. The Management of Renal and Ureteral Disorders. History and Physical Examination in Neurologic Urology. Management of the Neurogenic Bladder. Urinary Calculi. Pediatric Urology. Male Infertility. Clinical Aids. Index.

Nursing

APPLE—Sociological Studies of Health and Sickness

A Source Book for the Health Professions
By DORIAN APPLE, Ph.D. (Editor), Boston University.

350 *pp.*, 6 *x* 9, 3 *illus.* (1960).....$7.95*n*

There are many problems in patient care which involve human behavior and relationships. The solution of these problems by the health professions requires an understanding of the social and psychological forces at work. These forces and their relevance to patient care are the subject of this book. The 22 selected studies presented in this volume were carried out by sociologists, anthropologists, and psychologists —in some instances in collaboration with physicians. Their settings include a neighborhood in a large city, a tuberculosis sanitarium, the medical and surgical wards of a general hospital, a suburban community, a state-supported mental hospital, and the surgical service of a teaching hospital. The methods of research, the facts ascertained, and how inferences were drawn from the facts are described in detail for each study. The problems in patient care to which these studies apply are: educating the public to recognize when they need health care; overcoming the difficulty in communicating with or understanding patients; dealing with the emotional and motivational impediments to a patient's recovery; and raising the efficiency and morale of personnel. In each study, the findings on the sociological and psychological aspects of illness, health care, and behavior and attitudes of patients, laymen, and health personnel are described. An annotated bibliography is provided at the end of the book.

BERRY AND KOHN—Introduction to Operating-room Technique

By EDNA C. BERRY, University Hospital of Cleveland, and MARY LOUISE KOHN formerly Frances Payne Bolton School of Nursing, Western Reserve University. Second Edition.

197 *pp.*, 8½ *x* 11, 52 *illus.* (1960)...$5.95*n*

This successful nursing text has been revised to bring to the student nurse the newest operating-room techniques. The aim of the book is to facilitate the nurse's study of aseptic technique and care of the patient in the operating room. Emphasis is placed upon meeting the psychological as well as the physical needs of the surgical patient, and to correlate the preoperative and postoperative care with the operative procedure in order to give the student a complete concept of patient care. The principles of sterile technique are presented in one chapter for ready reference, and are also reiterated in appropriate situations. The authors have stressed the methods of preventing the transmission of infection and injury to the patient—antibiotics are no substitute for aseptic techniques. New chapters on general and gynecological surgery, pediatrics, x-ray diagnostic procedures, and surgery of trauma have been added; and the latest methods of sterilization, gowning, and skin preparation have been included in this work. The inclusion of brief case histories increases the book's hold on the student's interest, as well as the addition of 20 new illustrations which serve as a further aid to learning the practical application of principles.

CONTENTS—1. The Student and Surgery. 2. Construction of the Operating Room. 3. Organization of the Operating Room. 4. Sterilization. 5. Asepsis and the Principles of Sterile Technique. 6. The Surgical Scrub; Gowning and Gloving. 7. Positions. 8. Preparation of the Patient's Skin; Draping. 9. Room and Table Setup; Procedure of Case. 10. Methods of Hemostasis. 11. Sutures. 12. Needles. 13. Radium. 14. Plastic Surgery. 15. Orthopedics. 16. Urology. 17. Ophthalmology and Otolaryngology. 18. Pediatric Surgery. 19. General and Gynecological Surgery. 20. X-ray Diagnostic Procedures. 21. Surgery of Trauma. 22. Wound Healing. 23. Surgical Equipment and Routines. 24. Economy in the Operating Room. 25. Anesthesia. 26. Medicolegal Aspects.

BREDOW—The Medical Assistant, 2nd Ed.

By MIRIAM BREDOW, formerly Director of Eastern School of Physicians' Aides, New York.

In Press

In a clear, non-technical approach, this book tells the medical assistant what she has to do, how she should do it, and why she should do it. Every aspect of the medical assistant's work is covered, including good grooming, office psychology, simple laboratory tests, sterilization, injections, assisting at x-ray and other kinds of examinations, physical therapy, first aid, and secretarial duties. In this second edition, all material has been updated. Of special note is the additional material on the management of children in pediatric practice, childhood diseases, and child psychology. This is a textbook for training medical assistants and can be used also by the nurse, secretary, and technician in the doctor's office.

CONTENTS—Preface. Introduction. On the Job. The Personal Equation. Protection through Sterilization. Helping with Examinations. The Doctor Prescribes Treatment. Principles of Medication. Techniques of Giving Injections. Surgery in the Office. Application of Physical Therapy. Preparations for X-rays. Treatment and Diet. Assisting the Specialist. Children in the Doctor's Office. First-aid Rules. Medical Secretarial Duties. Patients' Records. Financial Matters. Keeping the Doctor's Accounts. Insurance in Medical Practice. Housekeeping Hints. Laboratory Techniques. Special Tests. Appendix. Index.

CHAMBERLAIN—Orientation to Nursing

By EDITH M. CHAMBERLAIN, R.N., Capital University, Columbus, Ohio.

196 *pp.*, 5⅜ *x* 8, 4 *illus.* (1962).....$4.95*n*

A book for a short course which is offered early in the nurse's training, this work reviews the basic and professional skills that are necessary for personal and professional development. An endeavor has been made to provide techniques and suggestions which the student may use to solve personal and professional problems, and to emphasize the value of a personal philosophy as the foundation for solving these problems. Much of the material in this book has developed from the expressed needs and requests of students in several types of nursing programs, and from the author's experience in guiding and teaching students. The student's interest in nursing, and her present knowledge and experience constitute the starting point of this book. The work continues with consideration to the student as a learner, as a developing personality, as a citizen, and as a future professional worker. This book contains an extensive bibliography to stimulate interest on the part of the reader to do independent investigation on the many phases of nursing. A supplement is included at the end

to provide additional or more detailed information in certain areas.

CONTENTS—UNIT I. Orientation to the Educational Program in Nursing. UNIT II. Orientation to Nursing. UNIT III. The Student. UNIT IV. The Professional Nurse. Supplement.

CRUZE—Psychology in Nursing

By WENDELL W. CRUZE, Ph.D., District of Columbia Teachers College. Second Edition.

536 *pp.*, 6 *x* 9, 79 *illus.* (1960).....$6.00*n*

A more comprehensive text than any other book in the field, this work provides complete coverage of practically all topics that would be included in a beginning course in psychology. The treatment is so comprehensive that the text gives the instructor all the materials he needs to cover a one-semester course without seeking outside sources. The book gives a scientific approach to each important area of psychology and addresses discussions to the student nurse. A new chapter has been added on "Adjustment Problems of Student Nurses" in which the more common problems of an emotional nature that are faced by student nurses are analyzed, and practical suggestions for solution are presented. A new section on "Extra-sensory Perception" has been added to the chapter on "Observation"; and the chapter on "Intelligence and Aptitudes" has been revised to include the newer nomenclature approved by the American Association on Mental Deficiency. Increased emphasis has been placed upon the importance of mental hygiene in this modern world, and a new section has been devoted to the relationship between anxiety and persistent maladjustment. All factual and statistical materials have been brought up to date, and many references to recent studies in the field of psychology have been added to this new edition.

CONTENTS—Preface. Psychology and the Student Nurse. The Psychology of Efficiency. The Origin and Development of an Individual. The Receptors and Their Functions. The Nervous System. The Effectors—Muscles and Glands. The Motivation of Human Behavior. Emotions and Health. Personality. The Development of Personality. Conflict, Frustration, and Adjustment. The Psychoneuroses and the Psychoses. Adjustment Problems of the Student Nurse. Intelligence and Aptitudes. Observation. Thinking. Psychological Aspects of Nursing Children and Adolescents. Psychological Aspects of Nursing Chronic and Aged Patients. Glossary. Visual Aids. Index.

DEMING—Careers for Nurses

By DOROTHY DEMING, American Public Health Association. Second Edition.

400 *pp.*, 6 *x* 9 (1952).....$6.00*n*

To inform the reader of the many job opportunities available, this book offers complete and detailed descriptions of the fifteen general types of nursing service as well as the numerous special openings on the staff, supervisory, and administrative levels. The prospective nurse will find answers to specific career questions.

CONTENTS—Choosing a Career. Hospital Nursing. Rural Hospital Nursing. Out-patient Department and Clinic Services. Maternity Nursing and Nurse-midwifery. Pediatric Nursing. Psychiatric Nursing. Orthopedic Nursing. Communicable Disease Nursing. Private Practice. Public Health Nursing. School and Camp Nursing. Industrial Nursing. Nursing in Doctors' Offices. Nursing Education. Nursing for the United States Government. Other Nursing Opportunities. Practical Nursing.

DOOLEY AND RAPPAPORT—Pharmacology and Therapeutics in Nursing

By MARION S. DOOLEY and JOSEPHINE RAPPAPORT, Duke University. Second Edition.

470 *pp.*, 6 *x* 9, 37 *illus.* (1953).....$6.50*m*

This fundamental text emphasizes public health aspects and the growing importance of caring for old people. Blood and blood products are thoroughly covered, and there is a special chapter on antibiotic antisyphilitic drugs.

CONTENTS—Preface. History of Drug Therapy. General Features of Drugs. Measurements and Computations. Drug Administration. General Analgesics. Special Analgesics and Other Drugs in the Prevention and Care of Acute and Chronic Arthritis and Gout. Hypnotics and Sedatives. Drugs as Respiratory Depressants and Stimulants. Antiseptics and Disinfectants. Local Anesthetics. Drugs Acting on the Peripheral Nervous System. Drugs Acting on the Heart and Coronary Diseases. Drugs Acting on the Peripheral Vascular Diseases. Endocrines. Antihistamines (Antiallergens). Vitamins. Blood, Blood Products, and Blood Substitutes. Drugs Acting on Blood and Blood-forming Organs. Stomachics and Carminatives. Antacids. Evacuants (Laxatives, Cathartics, Drastics, Emetics). Anthelmintics. Amebicides, and Other Parasiticides. Drugs Acting as Diuretics and Antidiuretics. Antimalarials. Sulfonamides. Antibiotics in the Cure of Infectious Diseases. Antibiotic Antisyphilitic Drugs. Serums. Vaccines. Drugs in Roentgenology. Reference Reading Suggestions. List of Visual Materials. Index.

FADDIS AND HAYMAN—Care of the Medical Patient

By MARGENE O. FADDIS, Frances Payne Bolton School of Nursing, and JOSEPH M. HAYMAN, JR., School of Medicine, both of Western Reserve University.

675 *pp.*, 6 *x* 9, *illus.* (1952).....$6.50*n*

A truly outstanding text for use in undergraduate schools of nursing. Its purpose is to stimulate a genuine and sympathetic understanding of the needs of the patient, the nature of his illness, and the therapeutic measures required of the nurse.

CONTENTS—PART I. INTRODUCTION: WHAT IS DISEASE? What Are the Qualifications for Good Medical Nursing? The Importance of Understanding the Patient. The Examination of the Patient. Some Important Reactions to Injury. PART II. SOME SPECIAL PROBLEMS IN MEDICAL NURSING: THE NATURE AND IMPORTANCE OF THE PROBLEMS. The Achievement of Rest. The Patient with Severe, Acute Illness. The Patient with Long-term Illness. The Aging Patient. The Patient with Disturbances of Consciousness and of Muscle Movements. PART III. SPECIAL TREATMENTS AND DIAGNOSTIC PROCEDURES: INTRODUCTION. The Administration of Oxygen. The Aspiration of Fluids from Body Cavities. PART IV. NURSING PATIENTS WITH PARTICULAR DISEASES: Cardiovascular Diseases. Metabolic Diseases. Diseases of the Blood and Blood-forming Organs. Diseases of the Respiratory System. Diseases of the Digestive System. Diseases of the Urinary Tract. Diseases of the Locomotor System. Disturbances of the Ductless Glands. Disorders of Personality. Diseases of the Nervous System. Diseases of the Skin. Allergic Conditions. Diseases Due to Physical Agents and Intoxications. Infectious Diseases.

FRENCH—Nurse's Guide to Diagnostic Procedures

By RUTH M. FRENCH, A.B., M.T., A.S.C.P., St. Louis University School of Medicine.

228 *pp.*, 5⅜ *x* 8, 9 *illus.* (1962)....$4.95*n*

Information from the fields of laboratory diagnosis and radiology which the nurse must understand in order to give her patient the best nursing care is brought together and made readily available in this short book. This book translates the work of the laboratory and radiology departments and relates it to nursing procedures in such a way that through a better understanding of the test and the meaning of its findings, the nurse is able to perform her part of the medical team's work more efficiently. The purposes of various tests, the interpretation of the findings, and the collection and care of specimens are covered in this book.

CONTENTS—1. Examinations of the Urine. 2. Hematologic Examinations. 3. Biochemical Examinations. 4. Tests for Specific Functions. 5. Serologic Examinations. 6. Immunohematology. 7. Microbiologi

Examinations. 8. Examinations of Cerebrospinal Fluid. 9. Miscellaneous Examinations. 10. Radiologic Examinations. 11. Radioisotopes.

GRAFFAM—Care of the Surgical Patient

By SHIRLEY GRAFFAM, R.N., B.S., School of Nursing, University of North Dakota.

311 *pp.*, 6 *x* 9, 55 *illus.* (1960).....$6.00*n*

This text for students of professional nursing presents a new approach to the care of the surgical patient. The aim of the book is three-fold: 1. to help the student to learn the basic principles of surgical nursing care; 2. to encourage her to function as a health teacher; and 3. to assist her to develop some understanding of the dynamics of human behavior in relation to surgical intervention and nursing care. Broad concepts of care required in surgery of the major anatomical divisions of the body are presented. Part I presents the basic concepts of care and health teaching which are necessary for all surgical patients. Part II presents in detail the care of patients undergoing abdominal surgery. Part III deals with thoracotomy. Part IV considers the care necessary in vascular surgery and burns. Because medical-surgical practices vary markedly, depending upon the patient's needs, the geographic location, hospital policies, and the surgeon's preferences, this text places special emphasis upon guiding the student to develop an analytical viewpoint and skill in evaluating these needs and in providing reassurance for the patient. Each major area of general surgery includes a discussion of diagnostic methods; symptoms, pathology, and indications for surgery; anesthesia and surgical techniques; rehabilitation, all correlated with the principles of nursing care and health teaching.

HANSEN—Pocket Encyclopedic Guide to Nursing

By HELEN F. HANSEN, R.N., M.A.

423 *pp.*, 4½ *x* 6¾, 24 *pp. insert* (1960) $3.75*n*

Soft-cover Edition $3.00*n*

This pocket-size, easy-to-use, encyclopedic reference book was designed to provide student and graduate alike with the fundamental terminology and subject matter of nursing and the allied sciences. The work teaches word building and derivation. Each term is followed by a pronunciation guide, a clear definition, and, when useful or needed, examples and further explanations important to the nurse. Specific diseases, causes, symptoms, treatment, and drug actions are covered because of their bearing on safe and efficient nursing. Brief discussions on principles of nursing care and therapy, explanations of techniques and procedures, and definitions of technical terms that will lead to more intelligent nursing care are included. Preventive measures, emergency care, emotional considerations, observation of symptoms, and precautions are emphasized. At the same time, care has been taken to avoid so much scientific detail and terminology that the practical value of the book might be lessened. Additional features include a 24-page insert of illustrations (12 in color) of the human body; commonly used abbreviations, prefixes, suffixes, and combining forms; thermometric equivalents; weights and measures; tables on blood valves, diet, isotopes and medical signs; table of elements; and Ely's table of pregnancy.

CONTENTS—Preface. Explanatory Notes. Pronunciation Guide. Pocket Encyclopedic Guide to Nursing. Appendix: Commonly Used Abbreviations; Commonly Used Prefixes, Suffixes, and Combining Forms; Blood Values; Diet Values; Table of Elements (latest version); Table of Pregnancy (Ely's); Table of Medical Signs; Weights and Measures.

JAMISON—Solutions and Dosage

By SARA JAMISON, R.N., Reading Hospital, Reading, Pa. Fourth Edition.

131 *pp.*, 8¼ *x* 11, 64 *illus.* (1962)....$3.50*n*

The teaching of drugs and solutions in the basic nursing curriculum is undergoing many changes as a result of efforts to integrate it with other courses, namely, fundamentals of nursing, medical and surgical nursing, and pediatric nursing. This workbook combines the attributes of a textbook, an arithmetic review, an exercise book, and a laboratory manual. It is designed to develop in the student an understanding and a facility for handling problems related to calculations of dosages and the preparation of solutions. An extensive survey with medical, surgical, and pediatric clinical instructors was conducted and the revision was based largely on its findings and results.

CONTENTS—1. Common Fractions. 2. Decimal Fractions. 3. Percentage. 4. Ratio and Proportion. 5. Metric System. 6. Apothecaries' System. 7. Metric and Apothecary Approximate Equivalents. 8. Solutions from Full-strength Solutes. 9. Solutions from Tablets. 10. The Dilution of Strong Solutions. 11. Oral Solids. 12. Oral Liquids. 13. Injectable Liquids. 14. Dry Dose Forms for Solution or Suspension. 15. Hypodermic Tablets. 16. Children's Doses. 17. Laboratory Exercises. Review.

KALKMAN—Introduction to Psychiatric Nursing

By MARION E. KALKMAN, University of California School of Nursing, San Francisco; Veterans Administration, San Francisco Area. Second Edition.

325 *pp.*, 6 *x* 9, *illus.* (1958).....$6.50*n*

The second edition of this successful textbook continues as a text for beginners in psychiatric nursing. It is much more than a revision, it is a reorientation and has been virtually rewritten because of the many profound changes that have taken place in psychiatry and psychiatric nursing since the first edition appeared in 1950. Changes include: material on personality growth and development expanded to include the entire span of life. No other book goes into such detail in emphasizing the application of this information to the understanding of the psychiatric patient and the nurse's understanding of herself. Completely new chapters on The Scope of Psychiatry, Acquiring Expertness in Psychiatric Nursing, and Nurse-Patient Relationship Therapy (this chapter represents the first time actual technique for this very important new therapy has been explicitly described in a book of this kind). The chapters on treatment have been greatly expanded, placing emphasis on the participation of the nurse in the total treatment plan. There are new drug therapies including tranquilizing drugs, new material on the function of the nurse in group therapy, including psychodrama, and expansion of discussion under Social Therapy to include therapeutic community and patient government. Two important Appendixes have been added: Nurse-Patient Relationship Study and American Psychiatric Association Classification of Psychiatric Disorders.

KOOS—The Sociology of the Patient

By EARL LOMON KOOS, M.D., deceased. Third Edition.

266 *pp.*, 5⅝ *x* 8⅜, *illus.* (1959).....$6.00*n*

This textbook, now in its third edition, provides the student nurse with a basic knowledge of man as a social being. The emphasis is upon those aspects of his social life which contribute to his behavior regarding health and illness. This third edition has been largely rewritten, to bring more sharply into focus those topics believed to be the most important to the student nurse.

CONTENTS—Man in Perspective. Man as a Person. Man Lives in Groups: The Family. Man Lives in Groups: Outside the Family. Man Lives in Communities. Social Stratification. Man Gets a Living. Some Social Aspects of Man's Physical Health. Some Social Aspects of Man's Mental Health. Some Aspects of Man's Social Problems. The Roles of the Nurse. Review Questions. Reading List. Index.

LANGLEY, CHERASKIN, AND SLEEPER—Dynamic Anatomy and Physiology

By L. L. LANGLEY, Ph.D., LL.B., University of Alabama Medical Center; E. CHERASKIN, M.D., D.M.D., University of Alabama Medical Center; and RUTH SLEEPER, R.N., M.A., Massachusetts General Hospital. Second Edition.

802 *pp.*, 6 x 9, 321 *illus.* (1963).....$7.95*n*

In this revised, up-to-date edition every effort has been made to achieve a better balance between the anatomy and physiology content and to shorten the book wherever possible. The book remains a teaching text in anatomy and physiology and can be used, because of its excellent arrangement, in a variety of teaching situations. For the most part, anatomy and physiology are separated which makes it easy to use the text in programs where a course of fundamental anatomy is given in the first year, followed later by the integration of physiology and additional anatomy courses. This work emphasizes function rather than structure with the main purpose being to give the student an understanding of the total human body. The authors have added a glossary to this second edition, as well as expanding the situation-type questions at the end of each chapter and adding thirty new illustrations.

CONTENTS—PART I. Orientation. PART II. The Nervous System. PART III. The Circulatory System. PART IV. The Respiratory System. PART V. The Alimentary System. PART VI. The Excretory System. PART VII. Endocrinology and Reproduction. GLOSSARY. SUGGESTED READINGS. INDEX.

MONTAG—Community College Education for Nursing

An Experiment in Technical Education for Nursing

By MILDRED L. MONTAG, Ed.D.

480 *pp.*, 6 x 9 (1959).....$6.50*n*

The nursing project described in this report is the first major change in the nursing curriculum in many years. The project has been a five year experimentation with a new type educational program for the training of nurses. This book is the long anticipated report of the Cooperative Research Project in Junior and Community College Education for Nursing. The program represents a distinct departure from traditional nursing programs in many ways.

CONTENTS—1. Introduction. 2. Social and Educational Perspectives for Experimentation. 3. The Cooperating Institutions. 4. The Faculty. 5. Curriculum and Instruction in Junior Community College Nursing Programs. 6. The Students. 7. Introduction to the Evaluation Study. 8. The Graduates Qualify for Nursing. 9. The Graduates Go to Work: Settings. 10. The Graduates Go to Work: Beginnings. 17. The Graduates Go to Work: Roles. 12. The Graduates Are Evaluated. 13. The Graduates Evaluate Their Preparation for Nursing. 14. The Pilot-Program Graduates and the Pilot Programs Are Viewed by Directors of Nursing Service. 15. Conclusions and Implications. Appendices. Bibliography.

NEAL AND KENNELLY—Chemistry

With Selected Principles of Physics

By RAYMOND E. NEAL, S.B., Simmons College, and ROSEMARY KENNELLY, M.A., Mary Immaculate Hospital.

374 *pp.*, 6 x 9, 28 *illus.* (1962).....$6.95*n*

Laboratory Experiments

104 *pp.*, 6 x 9, 3 *illus.* (1962).....$3.00*n*

The aim of this book is to bring to the student the basic principles of science, the knowledge of which will be useful in the care of patients. Chemical facts and principles, wherever possible, are explained in terms of the biological functioning of the human body. The text has been designed to make it easier to correlate principles with other areas in the nursing curriculum. Pertinent principles of physics are included because they are essential to an understanding of biochemistry. Of particular note are the chapters dealing with the elements of nutrition. With the many and varied methods currently being used throughout the country by educators to teach chemistry and physics to nursing majors, and the trend toward the integration of the principles of nutrition with this course, these chapters become particularly helpful to the instructor who must cover a great deal of material in a relatively short time.

CONTENTS—1. Some Fundamental Concepts. 2. Energy. 3. States of Matter. 4. Atomic Structure and Valence. 5. Physical and Chemical Change. 6. Fluids. 7. Important Gases. 8. Important Liquids. 9. Liquid Mixtures. 10. Electrolytes. 11. Body Electrolytes. 12. Organic Chemistry. 13. Important Organic Compounds. 14. Carbohydrates. 15. Lipids. 16. Proteins. 17. Metabolic Regulators. 18. Blood. 19. Metabolic Wastes. 20. Mechanics. 21. Waves. 22. Ionizing Radiations.

REITH AND BREIDENBACH—Textbook of Anatomy and Physiology

By EDWARD J. REITH, Ph.D., New York University School of Medicine; and BERTHA BREIDENBACH, R.N., M.S., St. Johns Episcopal Hospital School of Nursing, Brooklyn.

In Press

This is a combination text-atlas for students of nursing and other paramedical fields which integrates the structure and function of the human body. First there is discussion of the general organization of the human body, and then follows discussion of the nine main body systems: the skeletal, the muscular, the nervous, the circulatory, the digestive, the respiratory, the urinary, the endocrine, and the reproductive systems. The illustrations are done in the form of teaching posters which tell the story of both structure and function from microscopic (photomicrographs) to macroscopic in a clear, graphic way. Text is slanted to the nursing student. Each chapter includes a section on clinical correlation.

RENDER AND WEISS—Nurse-Patient Relationships in Psychiatry

By HELENA W. RENDER, R.N., B.S., and M. OLGA WEISS, R.N., M. LITT. Second Edition.

319 *pp.*, 5⅝ x 8⅜ (1959).....$7.50*n*

A thorough revision of a pioneering work for nursing students in their first contacts with psychiatric patients, this book contains basic material on the nurse's relationship with her patient that can be applied in all nursing situations. It has been brought up to date in line with recent developments in treatment, especially drug therapy. Former chapters 5 and 6 have been combined in one chapter on "Spe-

cial Problems," and a completely rewritten Chapter 6 discusses the use of various adjunctive workers—recreational, occupational, and other therapists, volunteers, clergy, and special-interest groups. Much of the material on music has been deleted, since music therapy is now well established as a separate field from nursing. The bibliographic references at the end of each chapter have been completely revised and brought up to date, and study questions have been added at the end of each chapter. Nomenclature has been revised in accordance with the latest changes, and new diagnostic terms have been included.

Dentistry

AMERICAN DENTAL ASSOCIATION—Genetics and Dental Health

Sponsored by the American Dental Association. Edited by CARL J. WITKOP, JR., D.D.S., National Institutes of Health, Bethesda, Maryland.

300 *pp.*, 6 *x* 9, 106 *illus.* (1963).....$8.50*m*

This is the first book ever to be written solely on the subject of genetics as related to oral health. GENETICS AND DENTAL HEALTH results from the first international Symposium on Genetics Related to Dental Health, sponsored by the Council on Dental Research of the American Dental Association which was held in Bethesda, Maryland, April 1961. A contributed volume by many leading investigators in the field of genetics and dentistry, GENETICS AND DENTAL HEALTH contains much factual material on various hereditary disorders of the oral cavity and the genetic aspects of normative growth and development. This book should be of primary interest to pathologists, hematologists, all dentists, and geneticists because it discusses the application of the most recent genetic knowledge to oral problems in health and disease.

CONTENTS—1. The Biochemical Basis of Human Heredity. 2. Genetic Criteria in Dental Research. 3. Inherited Disorders of Metabolism. 4. Dental Problems of a Heritable Nature. 5. Areas of Research in Dental Genetics. 6. Some Thoughts on the Role of Statistics in Dentistry. 7. Application of Twin Studies to Dental Research. 8. Twin Studies of Dental Caries. 9. Genetic Considerations in Dental Anthropology. 10. Genetic Aspects of Evolution of the Human Dentition. 11. Developmental Disturbances. 12. Experimental Analysis of Developmental Disturbances. 13. Physiologic and Genetic Aspects of Hemostasis. 14. Genetic Factors in Ectodermal Dysplasia. 15. Some Genodermatoses of Interest to the Dental Profession. 16. Hereditary Factors in Relation to Dental Caries and Congenitally Missing Teeth. 17. The Inheritance Factor in Dental Caries in Rats (Rattus norvegicus). 18. Dentin and Enamel Anomalies. 19. Dentin and Enamel Anomalies: Histologic Observations. 20. Genetic Disturbances of the Skeleton. 21. Bone and Connective Tissue. 22. The Genetics Program in Danish Dental Education.

BRAUER AND RICHARDSON—The Dental Assistant, 3rd Ed.

By JOHN C. BRAUER, D.D.S. and RICHARD E. RICHARDSON, D.D.S., both School of Dentistry, University of North Carolina.

In Press

This is a revision of the book cited for years by the American Association of Dental Assistants as their "recommended text for students in formal dental assistant courses." The book's objective is to cover areas of knowledge needed by the dental assistant in current practice. There are chapters on basic science areas such as Anatomy and Physiology, Microbiology, Pharmacology, and all applicable clinical subjects such as Endodontics, Orthodontics, and Prosthodontics. The revision includes an important restatement of the dental assistant's position in the profession today, the requirements for certification, and her importance in the field of dentistry.

BRAUER AND LINDAHL—Dentistry for Children, 5th Ed.

By JOHN C. BRAUER, D.D.S. and ROY L. LINDAHL, D.D.S., both of University of North Carolina School of Dentistry.

In Press

The dental problems of a child are covered in detail in this book which is designed as a text for the dental student on the graduate and undergraduate levels. The book has been substantially updated and revised with particular attention to certain fundamentals such as the psychological development of the child and the dental examination. There is also an orientation chapter on the practice of dentistry for children. Other areas which have been substantially rewritten on the basis of available new material are: Dental Caries in the Growing Child, Lesions and Infections of the Oral Soft Tissues, and the Treatment of Handicapped Patients. At least one-third of the illustrations are completely new. Because of its extensive clinical material and orientation, the book is valuable to the general practitioner also.

CHERASKIN—Diagnostic Stomatology

A Clinical Pathological Approach

By E. CHERASKIN, A.B., M.A., M.D., D.M.D.

338 *pp.*, 6 *x* 9, 121 *illus.* (1961)....$13.00*m*

This work, organized on the basis of a clinician's approach to a diagnostic problem, is the first work to analyze clinical pathologic reflections of oral disease. Most of the material in this book has been student tested at Alabama Dental School and in post-graduate courses that the author has taught at Michael Reese Hospital, Chicago and at the University of California. This work is well illustrated by the inclusion of actual case photographs and charts of clinical symptoms and includes numerous case histories. Equally applicable as a text or reference, the work has particular appeal for dental or medical practitioners who desire information on the relationship of oral lesions to the total diagnostic picture or to clinical pathologists interested in the relationships of laboratory studies to oral lesions. The chapter on a philosophical discussion of normal values and their meaning is of particular significance to all dentists and physicians. With the increased emphasis on a scientific understanding of the mouth as a mirror of systemic disease, this work is most timely and widely desired.

CONTENTS—1. Introduction. 2. Nature of Oral Disease. 3. Normal Laboratory Values. 4. Physiology and Pathology of Blood. 5. Physiology and Pathology of Urine. 6. Physiology and Pathology of Saliva. 7. Tests for the Detection of Infection. 8. Tests for Detection of Chemical Intoxication. 9. Tests for the

Detection of Neoplasia. 10. Tests for the Detection of Hormonal Imbalance. 11. Tests for the Detection of Nutritional Disturbances. 12. Tests for the Detection of Stress Disorders. 13. Tests for the Detection of the Hemorrhagic Diathesis.

GORLIN AND PINDBORG—Syndromes of the Head and Neck

By ROBERT J. GORLIN, D.D.S., M.S., University of Minnesota School of Dentistry; and JENS J. PINDBORG, D.D.S., University of Copenhagen. *In Press*

Here is a comprehensive survey of the existing literature which includes 150 symptom-complexes involving one or more oral structures. The fundamental relationship between disorders, often reported under diverse labels, has been carefully explored and demonstrated in a number of instances. This work is a valuable addition to the English-language medical literature because the authors have presented much valuable material from foreign sources not previously available. Much of the original work in oral syndromes has been done in Europe and the authors were able to study it in the original and incorporate it into their book. The emphasis in this work is on diagnosis.

KUTSCHER, ZEGARELLI, AND HYMAN—Pharmacotherapeutics of Oral Disease

By AUSTIN H. KUTSCHER, D.D.S., EDWARD V. ZEGARELLI, D.D.S., and GEORGE A. HYMAN, M.D., all of Columbia University. *In Press*

This book has a dual purpose: to fill a serious void in the training of undergraduate students of dentistry in the area of pharmacology and, to provide an accurate and usable reference book for practitioners of dentistry and medicine. To attain these objectives, the authors have emphasized the specific therapeutic approach to diseased conditions rather than considering the efficacy of each drug in the management of disease. This is done to aid the student in evaluating his patient and arriving at a proper diagnosis in a more logical manner. The book consists of 125 contributions from M.D.'s as well as dentists.

LUNDSTROM—Introduction to Orthodontics

Edited by ANDERS LUNDSTROM, Odont. D., Royal School of Dentistry, Stockholm.

315 *pp.*, 6 *x* 9, 246 *illus.* (1961) $15.00*m*

This work, an English translation of an outstanding Swedish book, is written by nine renowned Scandinavian specialists who have collaborated in this work under the editorship of Dr. Anders Lundstrom, Professor of Orthodontics in the Royal Dental School, Stockholm. Since most Scandinavian dental schools emphasize orthodontics as a basic subject more than our American schools, the text is a most important contribution to our understanding of the relationship of orthodontics to over-all dental care. This work includes chapters on facial embryology and development, swallowing and speech, and malocclusion, with reference to their importance in the understanding of orthodontic problems. Also considered are the role of genetic and non-genetic factors, as well as environmental influences and their importance in the total problem. The three chapters on treatment of malocclusion discuss tissue reactions, different methods of treatment, and the treatment of various forms of malocclusion. These are designed to give the student or practitioner an understanding of the possibilities in orthodontic therapy in general as well as special information about interceptive methods and their indications. Of particular practical importance is the last chapter which presents information on the desirability of immediate or deferred treatment. CONTENTS—Prenatal Development of the Face, the Nasal and Oral Cavities, and the Cranium. Postnatal Growth of the Jaws. Post-natal Development of the Dentition Deglutition. Speech. Variation in the Dentition. The Relationship of the Jaws to the Cranium. The Incidence of Malocclusion. Aetiology and Prevention of Malocclusion. Indications for Treatment of Various Forms of Malocclusion. The Reaction of the Supporting Tissues to Orthodontic Movement of the Teeth. Methods of Orthodontic Treatment. Treatment of Various Forms of Malocclusion. Under What Conditions Should Orthodontic Treatment Be Recommended?

McCARTHY AND SHKLAR—Diseases of the Oral Mucosa

By PHILIP MCCARTHY, M.D., and GERALD SHKLAR, D.D.S., both of Tufts Dental School. *In Press*

Diagnostic pathology is related to everyday clinical practice in this basic student textbook. The book includes more than 550 black and white illustrations and 24 colored illustrations on 4 plates. Every common disease of the oral cavity is discussed. Emphasis is on the diagnostic, management, and therapeutic aspects of the disorder. The work is more heavily documented and emphasizes therapy to a greater extent than other similar works in the field. It will be of interest not only to the dental student but to all pathologists, dermatologists, and other members of the medical profession who deal with the oral cavity—especially the otolaryngologist.

McGEHEE, TRUE, AND INSKIPP—A Textbook of Operative Dentistry

By WILLIAM H. O. MCGEHEE, D.D.S., M.D., F.A.C.D., HARRY A. TRUE, D.D.S., F.A.C.D., College of Physicians and Surgeons of San Francisco, and E. FRANK INSKIPP, B.S., D.D.S., F.A.C.D. Fourth Edition.

701 *pp.*, 6 *x* 9, 423 *illus.* (1956) $15.00*m*

This edition of a famous text and reference gives to students and practicing dentists concise yet detailed methods of procedures for developing skill in tooth restorations. Important additions to the Fourth Edition are: a new chapter on "Accuracy with Speed," reporting a technic which will enable operators of excellence to achieve the same results as they have been achieving in much less time than is usual; new chapter on pedodontics; new and improved procedures added to the inlay chapter; more operative topics included. Includes complete instructions for dentists preparing themselves for the Operative Dentistry portion of State Dental Examining Boards.

MILLER—Oral Diagnosis and Treatment

By SAMUEL CHARLES MILLER, D.D.S. Third Edition.

1040 *pp.*, 6 *x* 9, 574 *illus.*, 30 *color plates* (1957) $16.95*m*

This edition of a practical text for medical and dental practitioners and students has been completely modernized and rewritten by Dr. Miller and 37 contributors to meet modern needs. Includes a new and original diagnostic key which can be used by anyone to reach a diagnostic decision; new chapters on Diagnosis of Pulp Abnormalities and Their Treatment; Partial Denture Design and Planning; The

Surgical Management of Oral Disease; Pain of Dental Origin; Aerodontia (Aviation Dentistry); Hyperplasia; and Benign Tumor and Cancer of the Oral Cavity. A treatise on The Etiology of Periodontal Diseases has been added. The book presents in simple and easily applied form the diagnosis and successful management of the various conditions of the oral cavity and its related structures, including the salivary glands and temporomandibular joints.

SHARRY—Complete Denture Prosthodontics

Edited by JOHN J. SHARRY, University of Alabama School of Dentistry.

343 *pp.*, 7¼ *x* 9⅞, 373 *illus.* (1962) $14.95*m*

This multi-authored work is the first book on complete dentures to emphasize the biological considerations which affect proper clinical techniques. This book is organized in such a manner that the rationale of treatment is discussed before the techniques of treatment. The first part of this work is a collection of relevant facts and theories which influence the treatment of edentulous patients. Because of the preeminent importance of the temporomandibular joint to all forms of dental treatment, the chapter dealing with this subject is particularly detailed. The chapter on "Systemic Influences" includes previously unpublished research showing the great influence of metabolism on the oral mucosa of edentulous patients. Part Two, "Clinical Procedures," presents the current concepts of treatment with helpful information on the reasoning behind these concepts. An atlas type presentation, this book has the great advantage of being illustrated by the author himself.

CONTENTS—Preface. PART I: BACKGROUND. 1. Needs and Limitations of Prosthetic Dentistry. 2. The Person. 3. The Mucosa. 4. The Saliva. 5. The Musculature. 6. The Temporomandibular Joint. 7. The Bone. 8. Mandibular Movements. 9. Speech in Prosthodontics. 10. The Systemic Influences. PART II: CLINICAL PROCEDURES 11. Diagnosis. 12. Surgical Management. 13. Impressions. 14. Intermaxillary Relations. 15. Arrangement and Occlusion of Teeth. 16. Waxing and Processing. 17. Delivery and Aftercare. 18. Immediate Dentures. 19. Single Dentures. 20. Rebasing and Relining Techniques. 21. Repairs. 22. Implant Dentures. 23. Unusual Dentures. 24. Common Complaints of Patients. Index.

SORRIN—The Practice of Periodontia

By SIDNEY SORRIN, D.D.S.

496 *pp.*, 7¼ *x* 9⅞, *illus.* (1960) $19.50*m*

This book, equally applicable to the student and dental practitioner, presents the accumulated knowledge and experience of forty members of the Department of Periodontia and Oral Medicine of the New York University College of Dentistry. The material in this work is presented in a logical sequence, starting with the background basic science knowledge necessary for an understanding of the subject, and following through the diagnosis, prognosis, and treatment planning of periodontal disease, thus making this work a valuable teaching and reference tool. The inclusion of many modern clinical techniques of treatment and adjunctive therapy increases its value to the practitioner. A large portion of *The Practice of Periodontia* is devoted to the techniques of practice, including a full discussion of occlusal equilibration and splinting of teeth. Close correlation of text descriptions and illustrations enable the reader to follow each technique presented, step-by-step. The section on the proper use of instruments and both the conservative and so-called radical surgical approaches to treatment completes the coverage of the book.

CONTENTS—1. The Application of Anatomy, Histology, and Physiology to Periodontics. 2. Essentials of Periodontal Pathology. 3. Etiology. 4. Diagnosis. 5. Prognosis. 6. Treatment Planning. 7. Presenting Periodontia to the Patient. 8. Instrumentation; Scaling; Curettage; Other Surgical Procedures; Sharpening. 9. Occlusal Equilibration; Habits and Food Impaction. 10. Oral Physiotherapy and Home Care. 11. Repositioning of Periodontally Involved Teeth. 12. Splinting and Restorative Dentistry. 13. Diet and Nutrition. 14. Drugs as Adjuncts to Periodontal Treatment. 15. Significant Oral Lesions. 16. Cases Before and After Treatment.

TIECKE—Oral Pathology

By RICHARD TIECKE, D.D.S., M.S., The American Dental Association.

In Press

Contributors to this volume include some of the world's outstanding oral pathologists, pedodontists, and periodontists. Designed as a textbook for students as well as a reference, the book covers all aspects of stomatologic pathology including Inflammation, Pain, General Normal Appearance of the Oral Cavity. It also discusses specific disease entities such as Oral Carcinoma, Lichen Planus, and Leukoplakia. The book is profusely illustrated with approximately 144 colored illustrations on 24 plates.

WILSON AND LANG—Practical Crown and Bridge Prosthodontics

By WYMAN H. WILSON, D.D.S., F.A.C.D., and ROBERT L. LANG, D.D.S., F.A.C.D., both of University of Oregon Dental School.

336 *pp.*, 7¼ *x* 9⅞, *illus.* (1962) $14.50*m*

The fundamentals of crown and bridge and precision-type removable denture preparation are presented in an atlas-type format. Included in this work are the diagnostic procedures useful in developing a plan of treatment as well as the specific procedures used in fabricating crowns and bridges by the indirect method. The use of articulating instruments of all types is thoroughly discussed, and particular attention is paid to their use as aids to diagnosis and treatment planning. Particular attention is paid to the more recent developments in dentistry which have application to this area such as, ultra-speed tooth preparation, gnathological articulators, and methods of waxing functional occlusion.

Throughout the work emphasis is placed on the practical aspects of the subject: the causes of failures in crowns and bridges, the application of fundamental basic science information to treatment planning, and the concept of the mouth as a functional unit and the tooth or teeth as part of this unit.

CONTENTS—The Science of Fixed Prosthodontics. Purpose, Objectives, and Requirements of the Fixed Partial Denture. Basic Methods for Constructing Crowns and Fixed Partial Prosthodontic Appliances. The Stomatognathic System. Articulators and Associated Devices. Making Impressions for Study Casts. Making Study Casts. Locating the Condylar Hinge Axis. Orienting Study Casts to Semiadjustable Articulators. Making Recordings for Gnathologic Instruments. Adjusting the Articulator to the Recording of the Writing Apparatus. Diagnosis. Occlusal Equilibration. Treatment Planning. Selection of Retainers. Treatment of Caries, Old Restorations, or Badly Broken Teeth Prior to Tooth Preparation. Types of Marginal Finish Lines and Their Extension. The Inlay and Onlay Preparation. The Partial Veneer Pontics. Connectors—Assembling, Investing, Soldering, and Finishing. Verifying, Correcting, and Cementing. Failures in Fixed Partial Prosthodontic Treatment. The Removable Partial Denture with an Intracoronal Precision Attachment. Application of Simple Hinge Articulator. Application of Semiadjustable

Crown Preparation. Dowel Pin and Dowel Post Preparations. Tooth Preparation for the Complete Veneer Crown. Ultra Speeds for Tooth Preparation. Impressions for the Indirect Method. Making Articulating and Master Casts and Dies. Temporary Tooth Protection after Preparation. Developing Functional Tooth Anatomy. Aesthetic Facings for Complete Veneer Crowns and Fixed Partial Dentures. Articulator. Application of Completely Adjustable Articulators.

YOUNG—Outline of Oral and Dental Anatomy

By JACK YOUNG, D.M.D., University of Louisville School of Medicine, Louisville, Kentucky.

In Press

An outline of the essential anatomy of the oral cavity, this work includes the often separated material of both oral and dental anatomy. Part I covers such areas as Developmental Anatomy, Skeletal Anatomy, Muscular and Vascular Anatomy, the Lymphatic System, and Neuroanatomy. The second part of the book has separate chapters on each Maxillary and Mandibular Tooth as well as separate chapters on Deciduous Dentition and Occlusion of the Permanent Teeth. A profusely illustrated book, this outline will serve as a basic textbook or synopsis.

Pharmacy

BURLAGE, LEE, AND RISING—Orientation to Pharmacy

By HENRY M. BURLAGE, Ph.D., CHARLES O. LEE, Ph.D., and L. WAIT RISING, Ph.D.

306 *pp.*, 5⅜ *x* 8, 2 *illus.* (1959)....$7.50*m*

This valuable text is based on a questionnaire to over 125 instructors who attended the Teachers' Seminar on Pharmacy at Butler University in 1956, and is intended as a guide for beginning pharmacy students. It discusses the professional and commercial aspects, and the requirements and opportunities of pharmacy. This work is designed for use in the new five-year pharmacy curriculum and presents an over-all view of what the student should consider in regard to his chosen profession. It is believed that the principles embodied in this text are so fundamental to the profession that they should be immediately impressed upon the new student and repeatedly emphasized throughout the educational program. This guide to the study of pharmacy will prove to be a valuable tool when used as a text for pharmacy courses.

CONTENTS—1. Historical Development of Pharmacy. 2. Pharmacy in a Changing World. 3. Pharmacy and Its Public Relations. 4. Codes of Ethics. 5. Ethical Principles for the Practice of Pharmacy. 6. The Pharmaceutical Curriculum. I. The Basic Sciences. 7. The Pharmaceutical Curriculum. II. The Professional and Applied Professional Subjects. 8. The Branches of and Opportunities in Pharmacy. 9. National Organizations of Pharmacy. 10. The Essential Pharmaceutical Literature. 11. Use of the Library and of Reference Materials. APPENDIXES. INDEX.

BURLAGE, LEE, AND RISING—Physical and Technical Pharmacy

Edited by HENRY M. BURLAGE, Ph.D., Dean, University of Texas College of Pharmacy, C. O. LEE, Ph.D., Professor of Pharmacy, Ohio Northern University, and L. WAIT RISING, Ph.D., Professor of Pharmacy, University of Washington College of Pharmacy.

740 *pp.*, 6 *x* 9, 244 *illus.* (1963)....$16.00*m*

This book is designed for use as a text for the foundational courses in pharmacy which lead up to the final courses offered in the latter part of the curriculum, such as dispensing pharmacy and manufacturing pharmacy. It covers an aspect of pharmacy which includes the application of physical and chemical principles to pharmaceutical procedures and processes, in areas such as Rheology, Emulsions, and Nucleonics. The contributions of many individuals from all sections of the country is an added feature of this presentation.

JENKINS, CHRISTIAN, AND HAGER—Quantitative Pharmaceutical Chemistry

By GLENN L. JENKINS, Ph.D., Purdue University School of Pharmacy, JOHN E. CHRISTIAN, Ph.D., Purdue University School of Pharmacy, and GEORGE P. HAGER, Ph.D., University of Minnesota, College of Pharmacy. Fifth Edition.

552 *pp.*, 5¼ *x* 8, *illus.* (1957).....$10.00*m*

This is both a text and a laboratory manual. No other elementary book covers the special methods of analysis and the ever-growing important field of instrumental methods of analysis as clearly and comprehensively. All chapters have been revised. New experiments have been designed to bring the entire book into accord with the new editions of the United States Pharmacopeia and the National Formulary. New illustrative material and chapters on Chromatography and Radioactivity have been added.

CONTENTS—Remarks and General Directions. Gravimetric Analysis. Gravimetric Methods. Principles of Titrimetric (Volumetric) Analysis. Alkalimetry. Acidimetry. Precipitation Methods. Oxidation-Reduction Methods. Oxidation and Reduction. Gasometric Methods. Ash and Water Determinations. Extractive and Crude Fiber Content. Constants of Fats, Fatty Oils, Waxes, Balsams, Resins, etc. Assay of Volatile Oils. Alkaloidal Assaying. Official Type Methods. Alkaloidal Assays by Special Methods. Other Official Assays Involving the Use of Immiscible Solvents. Assay of Enzyme-containing Substances. Specific Gravity and Density. Melting, Congealing, and Boiling Temperatures. Hydrogen Ion Concentration, pH, and Potentiometric Titrations. Colorimetry, Spectrophotometry, Fluorophotometry, Nephelometry, and Turbidimetry. Refractometric Measurements. Rotatory Power. Solubility. Viscosity Measurements. Radioactivity. Chromatography. Electrolytic Methods.

JENKINS, FRANCKE, BRECHT, AND SPERANDIO—Scoville's The Art of Compounding

By GLENN L. JENKINS, Ph.D., DON E. FRANCKE, D.Sc., EDWARD A. BRECHT, Ph.D., and GLENN L. SPERANDIO, Ph.D. Ninth Edition.

551 *pp.*, 7¼ *x* 9⅞, 74 *illus.* (1957)..$12.50*m*

The current revision of this book for students and practicing pharmacists covers completely, like its predecessors, the various classes of preparations. It is specifically directed to the student of dispensing. All information is presented from the viewpoint of the practicing pharmacist, and throughout the text emphasis is placed on the application of pharmaceutical technique in retail and hospital practice. In the Ninth Edition, all prescription examples have been reviewed and many older ones have been

replaced by new ones; a chapter on ophthalmic solutions has been added; the section on incompatibilities has been extended to include many new items.

RAMSTAD—Modern Pharmacognosy
By EGIL RAMSTAD, Dr. en pharm., Purdue University School of Pharmacy, Lafayette, Indiana.
500 *pp.*, 6 *x* 9, *illus.* (1959).....$11.00*m*
A truly modern pharmacognosy text, this work considers the principles of pharmacognosy rather than individual drugs. Particular emphasis is placed on the knowledge of the biochemistry and chemistry of drugs and they are presented from the standpoint of their active constituents, and how these constituents function in the physiology of the living organism. The special features of this volume include: greater emphasis on chemical, biochemical, and physiological aspects of drug products, principles are stressed rather than particulars of individual drugs, drugs are grouped according to their active constituents so that the student can predict how a new drug will function by filling it into its proper biochemical category. Numerous industrial uses of microorganisms in industry are discussed; duplication of material in the USP and NF has been avoided since most students will already have these for reference; numerous graphs, tables, and illustrations are included to simplify and clarify the material presented. Each chapter follows the same general plan—opening with a general discussion of the group of drugs being considered and then giving only particulars under the individual drugs, relations of drug constituents to cell biochemistry are stressed throughout the book. Special chapters have been devoted to the commercial aspects of pharmacognosy, the variability of natural drug products, the formation of active constituents by organisms, and the analysis and storage of drug raw materials.

General Interest Books

ARCHITECTURAL FORUM—Building, U.S.A.
The Men and Methods That Influence Architecture in America Today
By THE EDITORS OF ARCHITECTURAL FORUM.
150 *pp.*, 6⅛ *x* 8⅛, 45 *illus.* (1957)..$3.95*td*
What are the current architectural trends in building? What is the economic, social, and cultural significance of our vast building boom? Who are the men and what are the methods that are shaping the face of America today? This book examines the real estate operator, the lender, the contractor, the labor force, the manufacturer, the corporate client, the engineer, and the architect, describing the part each plays in the complex business of building. Here, for the first time, all these forces are brought together in a thought-provoking and fascinating analysis of America's building and a stimulating forecast of things to come in the future.
CONTENTS—Introduction. Men and Methods. The Real Estate Operator. The Lender. The Contractor. The Labor Force. The Manufacturer. The Engineer. The Corporate Client. The Public. The Architect.

BAGBY—Make Your Own Color Prints
By ROBERT BAGBY.
168 *pp.*, 6 *x* 9, *illus.* (1961).....$4.50*td*
The book that amateur color photographers have been waiting for—the first complete, easy-to-understand guide to color printing and developing in the home darkroom. Illustrated with photographs and line drawings, this thorough how-to book contains concise and lucid descriptions of all the exciting new chemicals and photographic papers that make home color printing both simple and economical.

BESSER—Growing Up with Science
By MARIANNE BESSER.
225 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.50*td*
Here is a book for parents who want to help their children know the world we live in. How can parents guide their youngsters—born to an age of atoms, airplanes, and satellites—in growing up with today's science? This is the question Marianne Besser has set out to answer by showing parents how they can readily create around their children an atmosphere for developing an interest in science, and introduce them to the wonders of the world. She explains how to meet the child's need for self-reliance and adult respect, how to nurture his skills with words and numbers, and how to increase his observatory powers. The uses of readily available, simple materials such as magazines, books, and toys that can assist the parent in his role of learner-guide are also explained in this book for everyone bringing up a child in today's world.

BEY—Venus in the Kitchen or Love's Cookery Book
By PILAFF BEY (pseud. for Norman Douglas). Edited by NORMAN DOUGLAS. Introduced by GRAHAM GREENE. Decorated by BRUCE ROBERTS.
McG-H Paperbacks Ed. $1.75*pb*
This was, appropriately, the last book of the late Norman Douglas, essayist, novelist, and appreciator par excellence of the delectable things in life. A more or less serious, but always delightful collection of recipes ranging from aphrodisiacs to the broiling of oysters.

BRENT—Time for a Party
The Complete Home Party Book
By RUTH BRENT.
275 *pp.*, 6⅝ *x* 9¾, *illus.* (1957)....$5.75*td*
The complete home party book. This comprehensive guide to home entertaining is packed with new ideas for giving all kinds of successful parties with a minimum of effort and expense. Mrs. Brent's key to giving parties that are fun for both guests and host and hostess is the emphasis on planning. Actual check lists help the hostess plan systematically; these provide a timetable and reminder of what to do several weeks before the party, several days before the party, and the day of the party. The book provides all information anyone could want to know about giving parties—including planning, table settings (centerpieces, favors and making favors), menus, preparation of food, service (with and without help), games, table linen, and tips on being a good host and hostess and on being a good guest. A special

chapter is also included for the service wife to help her with the specific problems of entertaining on a military post.

BRUCE—Escape from Alcatraz
A Farewell to the Rock
By J. CAMPBELL BRUCE.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Here is the whole story of Alcatraz—the world's most dread prison since the closing of Devil's Island twenty years ago. A somber book, it shows how The Rock came to possess the fantastic and bizarre qualities that characterized it in the public's imagination. Mr. Campbell writes not only of the once day-to-day routine for guards, personnel, and prisoners, but also of an Alcatraz prison break considered one of the most spectacular of all times. The entire history of Alcatraz is related, from before the time it was a fortress, through its years as a military prison, to the awesome place it became. Its infamous but often world-famous inmates are described, and the anecdotes, legends, and stories that make up this book form a spellbinding glimpse into a world few readers have ever seen before.

BRYSON—An Outline of Man's Knowledge of the Modern World
Edited by LYMAN BRYSON.
692 *pp.*, 5⅜ *x* 8⅜ (1960).....$5.95*t*
A provocative guide to the ideas shaping the world of today and tomorrow, this carefully integrated master key by 33 distinguished scientists, critics, philosophers, and educators brings together all the new developments in philosophy, education, psychiatry, atomic science, languages, government, literature, music, and art. Such world-famous and original thinkers as Margaret Mead, Arthur Schlesinger, Jr., Alfred Kazin, Louis Untermeyer, Gilbert Seldes, Hudson Hoagland, Paul Sears, and Dr. Harold Wolff and over a score of others are guides for this exploration into modern thought.

BULLIS—Manifesto for Americans
By HARRY BULLIS.
212 *pp.*, 5⅜ *x* 8 (1961).....$4.95*t*
It is both refreshing and inspiring to hear Mr. Bullis, one of our most enlightened, eloquent spokesmen, speak about America. His manifesto, distilled from a lifetime of observations, not only of business and social affairs, but of economic and political changes, education, and world events, is written with deep spiritual conviction. A former Chairman of the Board of General Mills, and now a member of the Board of Directors, Mr. Bullis has a message of special timeliness, as we head into the New Frontier, and he tells how all of us—180 million capitalists—can make the most of our abilities in the venturesome climate of America today and tomorrow.

CALVERT—Surface at the Pole
The Extraordinary Voyage of the U.S.S. *Skate*
By JAMES F. CALVERT, COMMANDER, U.S.N.
220 *pp.*, 5⅝ *x* 8⅜, *eight pages of superb photographs* (1960).....$4.95*td*
An epic of modern exploration at one of the earth's last frontiers, this story of the *Skate* tells of a voyage that made exploration history for its daring and skill. The Navy knew that a submarine could sail from one end of the Arctic Ocean to the other, but no sub until the *Skate* had ever safely come up through the heart of the polar ice. Here, told by the man who commanded her, is the eagerly awaited tale of the first ship in history to surface in summer ice, and break through ice in the dead of winter—and reach open air in the eerie fastness of the North Pole.

CATTON AND CATTON—Two Roads to Sumter
By WILLIAM and BRUCE CATTON.
400 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
The book focuses on America in the 1850s, and is a study of the North and South as they marched their long, tragic march to Civil War. Parallel to this view, the Cattons examine Lincoln and Davis during this period, not only because they become the war leaders of the next decade, but also because they represent the end of thoughtful, moderate opinion in America. In their incisive psychological portrait of these two philosophical, idealistic men, the Cattons have found a way to embody the clash of opinion that leads to the clash of armies.

CHEKHOV—Late-blooming Flowers and Other Stories
By ANTON CHEKHOV. Translated by I. C. CHERTOK and JEAN GARDNER.
In Press
The title story, a 17,000 word novella, has never appeared in translation in this country before. It represents the end of Chekhov's early writing career, and is the first of his great stories. The book spans Chekhov's major writing career from his first important story to his last (The Fiancee), and also includes an unfinished story that he was writing at the time of his death. Most of the pieces included here have not been known except in the Constance Garnett translations of forty years ago.

CLEVELAND, MANGONE, AND ADAMS—The Overseas Americans
By HARLAN CLEVELAND, GERARD J. MANGONE, and JOHN CLARKE ADAMS.
316 *pp.*, 5⅜ *x* 8⅜ (1960).....$5.95*t*
With 1,500,000 Americans working and living abroad in various government posts, missions, schools, and commercial enterprises, we have failed to make ourselves welcome in foreign lands. This book, an outgrowth of a Carnegie Foundation research project carried out by Syracuse University, inquires into the problems of Americans overseas, makes constructive suggestions of the greatest value to the man leaving for a foreign post, and offers immeasurable aid in every contact with people in other countries. Realistic training programs before and after departure and language studies are among the chief needs of Americans, and our current policy is also examined for revision.

CONANT—The Education of American Teachers
By JAMES BRYANT CONANT.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.00*td*
This book, the product of painstaking two-year study of certification policies in 16 state capitals and the teacher-training programs of 70 institutions, brings to light startling answers to the more serious questions which now confront educators and the public alike. Dr. Conant proposes some radical alterations to teacher-education, and he shows, with examples

of how suggested reforms might be applied, that overall standards of education could be greatly raised without resulting in undue uniformity. Some of his recommendations fall within the province of the laymen, some in areas subject only to the authority of teacher-training institutions. All are of paramount importance to both groups, if decisions affecting the education of teachers are to reflect informed opinion.

CONANT—Slums and Suburbs
A Commentary on Schools in the Metropolitan Area
By JAMES BRYANT CONANT.
147 *pp.*, 5⅜ *x* 8⅜ (1961).....$3.95*t*
*McG-H Paperbacks Ed.**
This is a candid report on the striking, often shocking contrasts between tax-supported secondary schools that serve the wealthiest suburban areas, and those that serve the poorest slums. Dr. Conant directs particular attention to the education of Negroes from impoverished families, and to the effects of *de facto* segregation on Negro education in the North. He also points out dramatically the ironic and pathetic discrepancies in privileged communities where overeager parents thrust their children into programs beyond their capabilities. By contrast, educators in slum schools have difficulty convincing parents that the most basic skills are worthwhile. Mr. Conant discusses the controversial issue of vocational training and the pressing need for the future employment of underprivileged youth, bringing a realistic common sense to his very practical book.
** Available only through your local bookstore.*

CONNELLY AND GRANT—Did Success Spoil Jeff Davis?
144 *pp.*, 5 *x* 7½, 76 *illus.* (1963)..$3.95*td*
For years now, scores of writers have been peering through the battle smoke to catch a glimpse of some new aspect, an unexpected hero, a heretofore unknown skirmish, or unrecorded moment of glory not yet entered in the swelling literature of the Civil War. The authors poke good-natured but pointed fun at the modern-day Civil War biographies and accounts of "turning points" in the War, Centennialism and Roundtablitus, and obscure studies that are multiplying in the scholarly journals.

COOKE—What Cares the Sea
By KENNETH COOKE.
210 *pp.*, 5⅜ *x* 8 (1960).....$3.95*td*
In 1940, Kenneth Cooke was a seaman on the English freighter, SS *Lulworth Hill*. Late one night in the North Atlantic, his ship was split in half by German torpedoes. It sank within three minutes. The next fifty days of terror, death, and agony for the handful of survivors on an open raft are described by Cooke himself who watched his comrades perish one by one. Of them all, only Cooke lived. Far more than a tale of suffering and fear, *What Cares the Sea?* tells of the author's spiritual convictions as they emerged, tempered by tragedy and strengthened by the ordeal.

CROSBY—With Love and Loathing
By JOHN CROSBY, *New York Herald Tribune.*
256 *pp.*, 5⅜ *x* 8⅜ (1963).....$4.95*td*
One of the most popular and controversial columnists writing in America today, John Crosby regularly delights and infuriates his tremendous public. Sometimes with deceptive politeness, sometimes with consummate irony, and often with undisguised fury, Mr. Crosby levels his morning attacks. When the smoke clears, there may be architects, politicians, television producers or gangsters running for cover, depending on the day's target, which is as varied as the things that infuriate or occasionally please the author. Since the average readers are forever intending to save Crosby columns, whether to settle or start arguments, here he is with a new book, guaranteed to get the protests going again—to Mr. Crosby's immense satisfaction.

CUNNINGHAM—Hospitals, Doctors, and Dollars
By ROBERT M. CUNNINGHAM, JR., Editor, *The Modern Hospital.*
268 *pp.*, 5⅜ *x* 7½ (1961).....$6.95*m*
Here is a timely, revealing book about our hospital and medical scene that you will find both interesting and informative. It gives you, in a series of lively reports, a veteran observer's view of today's hospital, its activities, and its problems. Here you will read about the public relations antics of medical organizations, political and pressure activities within hospital and medical groups, labor union organization of hospital workers, and the power conflicts between hospital administrators and doctors using hospital facilities. The cost of medical and hospital care, the quality of medical and nursing service, Blue Cross and other prepayment programs, and the role of government in providing medical service ("socialized medicine") are impartially examined.
CONTENTS—Washing Professional Linen in Public. Political Means and Professional Ends. Hospitals, Doctors, and Dollars. Practice in Plaster Towers. Hospital Labor and Laborers. Some of My Best Friends Are Doctors. Moments in a Sober Business.

DE SEVERSKY—America: Too Young to Die
By ALEXANDER DE SEVERSKY.
237 *pp.*, 5⅜ *x* 8 (1961).....$4.95*td*
A shocking blockbuster of a book by one of America's greatest authorities on military tactics and aerial strategy and whose predictions and analyses of international struggles have proven true countless times. In this book, America is being called to reorganize its military power today or face a choice of the only two alternatives by 1962—destruction or communism. The American people, Major de Seversky warns, must take back the reins of government in order to survive and live as free men. We have been hoodwinked, lied to, and made fools of by our political and military leaders, until we are a second-rate power governed by men whose minds are still mired in the trenches of the Argonne Forest, according to Major de Seversky. In the military world today, nothing matters but air power, and *America: Too Young to Die* is a blueprint for survival, and a call to halt America's plummeting descent to mediocrity.

FADIMAN—Dionysus
A Case of Vintage Wines
Edited by CLIFTON FADIMAN.
320 *pp.*, 5⅜ *x* 8⅜ (1962).....$6.50*td*
A fresh, surprising, and unfamiliar collection of stories concerned with wines and drinking, this is a perfect book for the traveler, for the bedside, as a gift for the weekend host, and for the general reader—whether he likes wines or short stories, or both. Mr. Fadiman has brought together some of the most skillful

tales on the subject, most of them modern, and very few of them ever collected in a book before. Some are mysteries and fantasies, others are humorous or slightly oddball, and there are some of the great classics as well. Montaigne, Daudet, and Poe are included, and as diverse a group of authors as Peter DeVries, Dorothy Sayers, A. A. Milne, Kingsley Amis, Art Buchwald, Lawrence Durrell, and Hillaire Belloc turn what might have been a casual anthology into a rare and completely delightful book in every respect. Bringing both literary taste and love to the collection, Mr. Fadiman draws all the stories together with his comments and introduction. Clifton Fadiman, well known as an author, a member of the Book-of-the-Month Club Board, and a regular contributor to national magazines, is equally familiar in the world of entertainment, where he appears frequently on television panel shows and was the master of ceremonies on "Information Please."

FAREWELL—Every Girl Is Entitled to a Husband
By NINA FAREWELL.
160 *pp.*, 5⅝ *x* 8 (1963).....$4.95*td*
Ladies and girls, and all women in general: if you think you can't marry just because you aren't in love, or if you imagine you're too ugly to attract a mate, or if you're too tall, or too old, or too contankerous, or crosseyed, or a hopeless loser in the great matrimonial sweepstakes, then Nina Farewell's hilarious but carefully reasoned book is for you. In this slender and very funny volume, you will find all the problems—serious and otherwise—and all the solutions—even yours, whatever it is. Simply examine Nina Farewell's easy-to-follow directions, select the approach most suited to your individual needs, and your success is assured.

FORTUNE—Fortune's Guide to Personal Investing
By the Editors of *Fortune* Magazine.
280 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.50*td*
An absorbing book on the problem of today's investor in finding the best device for acquiring his share of this immense sum. Every page has provocative thoughts on such topics as speculative bonds, the currency market, oil ventures, and playing the new-issues game, commodity futures, foreign stocks, and closed-end funds. The investor is told how to choose a broker and financial advisors, whether it is worthwhile to "chart" the market, where he can earn a 5¼ percent return insured by the United States, and what the "rule of 72" is.

FLORINSKY—McGraw-Hill Encyclopedia of Russia and the Soviet Union
By DR. MICHAEL T. FLORINSKY, Columbia University.
640 *pp.*, 8½ *x* 11, *illus.* (1961)....$23.50*td*
The first encyclopedia of its kind ever published, this comprehensive, one volume reference work contains factual, authoritative articles on every aspect of Russia and the Soviet Union, from medieval times, through the Revolution of 1917, to the present. From St. Vladimir to Khrushchev, from the ballet to the cosmonaut, from Christianity to dialectical materialism, the scope of this magnificent volume reflects the politics, culture, industry and nature of the Soviet people. Every subject is carefully and incisively documented by a world-recognized authority in each particular field. The impressive list of contributors includes Harrison E. Salisbury on *Tourism and Traveling*, Harry Schwartz on the *Soviet Economy*, Leon Trilling on *Technology*, Earl Ubell on *Outer Space*, John Turkevich on *Physics*, Anatole Chujoy on the *Ballet*, Edward Brown on *Soviet Literature*, just to name a few. This encyclopedia and comprehensive reference on every facet of Russia and the Soviet Union will be widely demanded by scientists, engineers, businessmen, journalists, radio and television news staffs, all interested laymen and students.

GOLDWATER—Why Not Victory?
A Fresh Look at American Foreign Policy
By BARRY M. GOLDWATER.
240 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*t*
As controversial a political figure as he is frank and outspoken, Senator Barry Goldwater examines the vast, complex crises of our time in the light of his own conservative thinking—an approach he believes has made our nation great. *Why Not Victory?* is at once an impassioned, challenging book, significant in its presentation of the conservative viewpoint, and a vital document by one of conservatism's most eloquent spokesmen. This nation, he points out, was founded in a time of crises, preserved in a time of crises, and our conservative principles, so successful in the past, must be utilized today. He discusses education, taxes, recessions, integration, civil rights, care of the aged, and welfare. And in the field of international affairs, he writes of communism, of Castro, of "neutralism," the United Nations, the U-2 flights, foreign aid, and the Peace Corps, stating his views candidly and underscoring the conservative position in regard to each problem.

HELLERSTEIN—Taxes, Loopholes, and Morals
By JEROME R. HELLERSTEIN.
220 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Here is a very readable, completely dependable, and up-to-date description of the major areas of Federal tax laws. Mr. Hellerstein covers income tax, capital gains, depletion allowances, "collapsible corporations," charitable contributions, and every other aspect of taxation. As a man who has taught tax law and represented large corporations, Mr. Hellerstein is eminently qualified to analyze our extraordinary complex Federal tax structure. It is a timely book, in the light of present controversy over tax reform, and it is both lively and judicious. Mr. Hellerstein examines the loopholes in the United States tax structure, and he makes some rather controversial suggestions for closing them.

HOGAN AND GERMAN—The San Francisco Chronicle Reader
Edited by WILLIAM HOGAN and WILLIAM GERMAN.
320 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.95*t*
From the vastly entertaining pages of the famous *San Francisco Chronicle*, known for its colorful but cogent approach to the life—San Francisco and Northern California in particular, and the nation in general—the editors have brought together an immense variety of material that has delighted past readers and often made newspaper history. Whether describing the beauties and wonders of the Bay Area, or outrageous personalities on the scene, odd cults, or still odder courtroom shenanigans,

crucial moments in war, labor disputes, or lynchings, the *Chronicle's* top reporters, columnists, and often Pulitzer Prize-winning newsmen are here. The impressive list of contributors includes Stan Delaplane, Calvin Kentfield, Lucius Beebe, Bernard Taper, Vance Bourjaily, Tom Mathews, and Pierre Salinger. The *Reader* begins with the *Chronicle's* first scoop—Lincoln's assassination—and takes in such famous visitors as General Grant, Oscar Wilde, Tetrazzini, Hemingway, and everyone else who caught the paper's attention in the last hundred years.

INGRAM—Talk That Gets Results
Communication: Key to Success and Harmony with Others
By K. C. INGRAM.
224 *pp.*, 5⅜ *x* 8 (1957).....$4.95*t*
This basic, self-help book shows how to influence people through talk and other methods of communication. Using human-interest stories and anecdotes, Mr. Ingram bases his discussions realistically on the fundamental drives that motivate people—bosses and employees, people in business dealing with each other at all levels, and dealing with customers and the public, parents and children, friends and social acquaintances. This book is a timely contribution to the subject of communications which is becoming increasingly important in the everyday lives of all of us. Mr. Ingram is author of best seller *Winning Your Way with People.*

JACOBSON—Tension Control for Businessmen
By EDMUND JACOBSON.
254 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$5.95*td*
This valuable book is directed to the businessman, the executive in business, and their colleagues in the various professions, providing them with a specific and tested method for tension control. Dr. Edmund Jacobson's system is basically sound and biologically valid, and in offering his proposals, he shows the ways in which they are superior to such alternatives as sedatives, tranquilizers, hypnosis, or autosuggestion. Through the many case histories, examples, and the use of pictures, the reader knows exactly what Dr. Jacobson is recommending and can readily grasp the ways of developing tension control.

JACOBY AND BENSON—Mathematics for Pleasure
By OSWALD JACOBY with WILLIAM H. BENSON.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
Here is recreational mathematics at its best—many hours of intriguing, stimulating entertainment with mathematical theories, games, puzzles, and curiosities. This big, informative book is filled with problems and oddities that will delight every reader, and provide fun, mystery, and instruction. Containing a wide variety of provocative mathematical material, ranging from elementary problems to very difficult intellectual exercises, it is a treasure of games, surprises, and phenomena of all kinds, presented in readily understandable, nontechnical language. Oswald Jacoby, an actuary by profession, is nationally known as a bridge columnist, and for his best-selling books on poker, canasta, and gin rummy. William H. Benson is associate professor of mathematics at Dickinson University.

JANSON AND EISMANN—The Far Right
By DONALD JANSON and BERNARD EISMANN.
256 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Illustrates the character and activities of right-wing groups in America today, the authors examine the history and development of such movements in order to give readers a sufficient background for this carefully reasoned scrutiny of conservatism—real and not so real. They discuss such organizations as the John Birch Society, Billy James Hargis's Christian Crusade, the Minutemen, and all the important figures at the Far Right from Barry Goldwater to Robert Welch, and probe their effects on the press, on education, in politics, and in government.

KRAUS—The Family Book of Games
By RICHARD KRAUS.
190 *pp.*, 5 *x* 7½, 45 *illus.* (1960)....$3.95*t*
*McG-H Paperbacks Ed.**
Here is a complete guide to games every member of the family can play and enjoy—indoors or out, at home or on vacation. Games, tricks, puzzles, quizzes, and stunts—in all there are more than 300 game activities, with special emphasis on parent-child needs and for use in scout, school, and church groups. There is also a chapter on game planning and leadership which will be useful to those involved in group activities.
* *Available only through your local bookstore.*

KRUGLAK—The Two Faces of TASS
By THEODORE E. KRUGLAK, President, American College of Switzerland, Leysin, Switzerland.
263 *pp.*, 5⅜₁₆ *x* 8 (University of Minnesota Press, 1962; McG-H Paperbacks Ed., 1963) $2.45*pb*
TASS is an abbreviation of the Telegraph Agency of the Soviet Union (Telegrafnoye Agentstvo Sovyetskoyo Soyouza). Professor Kruglak examines TASS both as Soviet media for propaganda and as one of the best international news agencies in the world. The questions raised here extend far beyond the subject matter of the book. Inevitably, such a topic leads into the field of international relations and world understanding. The approach is both historic and analytical and provides brilliant vignettes of the men who built it. This study is an original contribution to political science as well as to Soviet history.

LAIRD AND LAIRD—How to Get Along with Automation
By DONALD A. LAIRD and ELEANOR C. LAIRD.
In Press
For everyone wondering what automation will do to his life, the Lairds present a wide range of information dealing with all aspects of the subject, as it will affect jobs, retirement, leisure time, and social activity. It is certain that automation is going to bring many changes—to employees and employers alike. Examples of everyday automation are used to show the reader how dependent he is on automation, and how much more deeply it will change his social and personal life in the near future, particularly in view of our expanding economy and population explosion.

LARSON—A Warless War
Edited by ARTHUR LARSON.
224 *pp.*, 5⅜ *x* 8 (1963).....$4.95*td*

Assuming that a disarmed world can be achieved, this study examines the main needs that will then have to be served: security, change, material well being and progress, and spiritual and moral well-being. A dozen internationally known figures, including Arnold Toynbee, William Ernest Hocking, Walter Millis, Margaret Mead, James J. Wadsworth, and Senator Hubert Humphrey propose the means by which the world's present fears can be overcome in a constructive way.

MANNIX—All Creatures Great and Small
By DANIEL P. MANNIX.
280 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$7.95*c*
This unusually humorous, engaging book tells of a boy's love and deepening knowledge of animals—a wide and varied assortment of them—discovered and rediscovered as he grows into manhood. Along with stories of hawks, porcupines, skunks, alligators, and the usual pets that children try to tame, there are also revealing tales of the effects these domesticated animals had on parents, members of the family, and servants. Swiftly paced and lucid All Creatures Great and Small will have a great appeal to anyone who has ever owned a pet of any kind—or longed for one.

MASSEE—Massee's Guide to Eating and Drinking in Europe
By WILLIAM MASSEE.
208 *pp.*, 5⅜ *x* 8 (1963).....$4.95*td*
An epicurean's guidebook to all of Europe, packed with suggestions and recommendations (and hard facts) about everything a traveler needs to find the great food and wine areas of Europe. Mr. Massee takes readers on an unprecedented excursion in search of fine foods, superbly equipped inns, and special festivities that await the connoisseur.

MASSEE—Wine and Food Index
By WILLIAM MASSEE.
208 *pp.*, 5 *x* 7½, *illus.* (1962).....$4.50*td*
This ingenious handbook is designed to convey, in the most practical and economical form, a vast store of information on the world's great wines and foods. The reader will find straightforward and sound advice on which wines should be served with various meals, on stocking a wine cellar, on planning menus and preparing specific dishes, and on ordering in fine restaurants. As a result of the book's simplicity of presentation, even a cook only slightly familiar with the elements of cookery can use this book to plan menus and prepare meals. Phonetic spellings are included so that the reader will have an idea of how even the most esoteric wine and food terms are pronounced.

MASSEE—Wines and Spirits
A Complete Buying Guide
By WILLIAM E. MASSEE.
426 *pp.*, 6⅛ *x* 9¼, *illus.* (1961)....$8.95*td*
Full, detailed information on all the great, the good, and the ordinary wines and spirits of the entire world is included in this definitive and completely fascinating guide. It covers prices, vintages, food and wine combinations, pronunciations, ordering in restaurants, reading of wine labels, charts, maps, drawings, and the most comprehensive vineyard lists ever published in one volume. A personal friend of many of the great wine makers, Mr. Massee writes of them as well, telling the anecdotes and legends that are so much a part of the world of wines. With its complete index, bibliography, and vocabulary, plus sections on weights and measures, glassware, and mixed drinks, it is an ideal book for the connoisseur, the discriminating host, the amateur or professional cook, the gourmet, as well as for the man who drops in at a local liquor store for a bottle of wine.

MAXIM'S—Chez Maxim's
Gourmet Recipes from the Greatest Cuisine in Paris
Edited by COUNTESS DE TOULOUSE-LAUTREC.
192 *pp.*, 8½ *x* 11½, *illus.* (1962)..$15.00*td*
The great recipes from one of the most celebrated restaurants in the world are revealed here—many for the first time—by the Countess de Toulouse-Lautrec, director of Maxim's Academy where top chefs are trained year after year. In addition to Chez Maxim's recipes, some of which are very simple and others of which are highly complex, there are full menus, directions for entertaining from buffet suppers to gala dinners, plus wedding receptions, cocktail parties, holiday festivities, table settings, decor, a special wine section, and lively anecdotes about Maxim's fabulous guests, past and present. A big lavish book with full color and black-and-white illustrations, not only of individual dishes but of elaborate table settings at Maxim's and in private homes, it is a guide to the secrets of Louis Vaudable, the restaurant's famed owner, who has written the introduction. The Countess de Toulouse-Lautrec writes a regular food column for the magazine *Réalités*, in addition to performing her duties at the Academy.

PACKARD—The Pyramid Climbers
By VANCE PACKARD.
352 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.00*td*
Mr. Packard describes this book as "a nonreverent look at the nation's most exploited class of steady jobholders—the hustling, well-packaged executives striving up the slippery slopes of enterprise." It is all that, and quite a bit more. It is a disquieting book about American business executives, describing their training, selection, and climb, plus all the dead-ends and disasters that wait along the way. Although Mr. Packard shares the general uneasiness of businessmen, he sees some hope for the future, but his book is a study of conflict, taboos, false lures, pitfalls, decline, dehumanization, and morality, all tragically misunderstood in a changing world. Mr. Packard is also the author of these best selling books, *The Status Seekers*, *The Hidden Persuaders*, and *The Waste Makers*.

PADOVER—The Genius of America
Men and Ideas that Shaped the American Mind
By SAUL K. PADOVER.
605 *pp.*, 5⅝ *x* 8⅜ (1960).....$6.50*t*†
The rich, steady current of American thought, blazing through the generations from George Washington to Franklin D. Roosevelt is covered here in the story of nineteen of our greatest thinkers. Their powerful ideas and philosophies in relation to American civilization are woven into this magnificent picture of the men who have shaped the American mind and will continue to guide our destiny. A model of

† *Textbook edition available at educational list price.*

clarity, Mr. Padover's pungent and concise book discusses George Washington, John Adams, Thomas Jefferson, Alexander Hamilton, James Madison, John Taylor, John Marshall, John Calhoun, Abraham Lincoln, Henry David Thoreau, Ralph Waldo Emerson, Walt Whitman, Henry George, William James, Oliver Wendell Holmes, John Dewey, Theodore Roosevelt, Woodrow Wilson, and Franklin D. Roosevelt. Mr. Padover writes of their triumphs and even their occasional failures with warmth and complete honesty, showing how they shaped this nation's heritage from generation to generation.

RANKIN—Be Fit as a Marine!
By W. H. RANKIN.
128 *pp.*, 6⅛ *x* 8⅛, *illus.* (1963)....$4.50*td*
Recognizing the vital need of physical fitness in a "nation of spectators," Lieutenant Colonel W. H. Rankin, a veteran of 21 years in the United States Marine Corps, has written an eminently readable and useful guide to sound exercises for everyone. In *Be Fit as a Marine!* he adapts the same basic principles that have developed thousands of raw recruits into fighting soldiers, and has made the principles available to every reader. The exercises are described in a simple, easy-to-follow manner, and are accompanied by three series of photographs illustrating the individual adaptations of the exercises as they apply to men, to women, and to children.

SCHNEIDER—Babylon Is Everywhere
By WOLF SCHNEIDER.
400 *pp.*, 5¼ *x* 8½ (1963).....$7.95*td**
Aware that the fate of mankind has always been linked with the fate of cities, Wolf Schneider has written a superb account of the rise and fall of the great cities of history and of the peoples and cultures connected with them. Beginning with the earliest settlements along the muddy banks of the Euphrates, he writes of Ur and Babylon, tells us of life in Nineveh, what Alexandria was like before Caesar waged war upon it, how Rome grew and why it fell. The life-and-death story of each city gives an important lesson for the reader concerned with the prospects for Berlin, Paris, London, Moscow, New York, and Los Angeles, and other great cities today. Mr. Schneider also writes of the world of 2,000, when there will be too many people and autos, and cities such as Boston will flow uninterrupted into Washington, a fact typical of this entire dramatic, colorful and thought-provoking account.

** Not available for sale in Canada.*

SIMON—Champagne
By ANDRE L. SIMON.
240 *pp.*, 7½ *x* 10½, *illus.* (1963)...$10.95*tf*
A reliable and altogether delightful story of champagne, filled with fact as well as fancy. Mr. Simon has drawn on more than sixty years' experience as a wine lover and connoisseur to create this magnificent volume devoted solely to the most glamorous wine of them all. From grapes to the glass he gives the story of champagne, superbly illustrated in a handsome gift book that food and wine lovers will treasure.

SIMON—The Noble Grapes and Great Wines of France
By ANDRÉ L. SIMON.
240 *pp.*, 7½ *x* 10½, *illus.* (1957)...$12.50*t*
In this magnificent book, André Simon, world's leading authority on wines, relates the story of the great wines of France—from grape to glass. Vivid descriptions and beautiful full-color photographs enable the reader to almost *taste* these fabulous wines. André Simon describes the various species of grape, the vineyards of each district, the quality of wines they produce, specific methods of winemaking, outstanding characteristics of each wine, and its historical background. The author has drawn his information and judgments from sixty years' experience as a wine lover and connoisseur. With this unique book the reader can see the exact size, shape, and color of the grapes, the color of the renowned wines made from these grapes—colors whose beauty words cannot convey. Features of this handsome gift book: listings of good vintage years; glossary of wine terms; the proper casks, bottle, and glasses; 24 full-color photographs of both grapes and wines; tips for care and service of wines; chapter on the art of making wine; maps and appendices.

SIMON AND HALLGARTEN—The Great Wines of Germany
By A. L. SIMON and S. F. HALLGARTEN.
240 *pp.*, 7½ *x* 10½, *illus.* (1963)..$12.50*td*
This is the glowing and scholarly work of two men generally recognized as the most knowledgeable international authorities on the subject of wines and gastronomy. Drawing on their long experience as wine lovers and connoisseurs, the authors describe the vineyards, the production methods, bottling, dating, vitages, labeling, ratings, and full historical background of German wines.

STUART—Plowshare in Heaven
By JESSE STUART.
288 *pp.*, 5 *x* 8⅜ (1958).....$4.95*t*
Jesse Stuart, prize-winning novelist, poet and master short-story writer, again evokes the spirit of his native Allegheny hill country. Included in this, his fourth book of short stories, are twenty selections that present a broad panorama of the fascinating mountain peoples and their picturesque, sometimes startling way of life. Included are stories about Big-Sandy Bill, the tough river man who lived by his own unbending code of honor . . . Brother Thomas Bowling, the rich merchant of the Old Faith who succumbed to sin and the TV set . . . and Sylvania, the 650-pound lady moonshiner whose funeral brought out a grieving cortege of thirsty mourners.

SULLIVAN—Christmas with Ed Sullivan
By ED SULLIVAN.
256 *pp.*, 5⅝ *x* 8⅜, *illus.* (1959)....$4.95*td*
Here are the fact and fancy, the faith and folklore of Christmas—wrapped up in the year's most inviting Christmas package. In this book Ed Sullivan, the man who, every Sunday night, is host to 35,000,000 Americans, tells what Christmas has meant to him over the course of a long and successful career. Mr. Sullivan then introduces the Christmas recollections of many of his friends—Jack Benny, Mamie Eisenhower, Ted Williams, J. Edgar Hoover and dozens of other celebrities.

SULLIVAN—Assault on the Unknown
The International Geophysical Year
By WALTER SULLIVAN.
350 *pp.*, 5¾ *x* 8⅜ (1961).....$7.95*td*

This is the only complete, authentic account of the "single most significant peaceful activity of mankind since the Renaissance and the Copernican Revolution"—the International Geophysical year. Running from July 1, 1957 to December 31, 1958, the IGY involved 60,000 scientists from sixty-six nations working at thousands of stations, literally from pole to pole. Research and examination of their many discoveries continue today, and will occupy men in every branch of science for many years to come. Walter Sullivan, the leading science writer in this country, describes all of the obstacles, and the triumphs, during the great international adventure, telling of each with accuracy and enthralling detail.

TAPER—Gomillion Versus Lightfoot: The Tuskeegee Gerrymander Case
By BERNARD TAPER.
128 *pp.*, 5⅜ *x* 8 (1962).....$3.75*td*
*McG-H Paperbacks Ed.**
This brilliantly detailed and courageous book deals with the denial of Negro voting rights in Tuskeegee Alabama, and the gerrymandering of the voting districts in that township—a case that was finally argued before the Supreme Court. Mr. Taper, a writer for *The New Yorker*, went to Tuskeegee and to Washington to create his initial report, a two-part profile for the magazine. In depth and accuracy of interpretation, the book resulting from the two articles is a moving and significant document of an extremely crucial moment in the struggle for justice under the law. The book is also a superb study of the character and personalities involved, from Negro farmers and teachers in Tuskeegee to Justice Felix Frankfurter of the Supreme Court.
** Available only through your local bookstore.*

TAPER—Mark Twain's San Francisco
Edited by BERNARD TAPER.
320 *pp.*, 6 *x* 9, *illus.* (1963).....$6.95*td*
Mark Twain lived in San Francisco from 1863 to 1868, and during those years, wrote nearly half a million words about the city and its citizens. Twain was not only one of the San Francisco's favorite authors, he was also one of its favorite lecturers, and favorite characters. "The Jumping Frog of Calaveras County" was written during this period, and is reprinted here in its original version. Mark Twain's *San Francisco* is vintage Twain—incisive, often angry, and always funny. It is a perfect book for the Twain enthusiast and for the loyal San Franciscian.

TAYLOR—High Horizons
Daredevil Flying Postmen to Modern Magic Carpet—the United Airlines Story
By FRANK J. TAYLOR. New Revised Edition.
288 *pp.*, 6 *x* 9, *illus.* (1962).....$4.95*td*
Here is the dynamic story of the airplane industry in the United States, as traced through the development and growth of United Air Lines. This new revised edition brought completely up to date with the inclusion of jet aircraft, plus material on the latest developments in air safety and plans for tomorrow, relates the whole story of how the airplane became what it is, and how our lives have been changed as a result. It is the lively, colorful story of United Air Lines, told in terms of the people who wrote it by their lives and deeds.

TEAD—The Art of Administration
By ORDWAY TEAD.
228 *pp.*, 6 *x* 9 (1951).....$6.00*t*
*McG-H Paperbacks Ed.**
This significant and highly practical book demonstrates specifically how corporate and institutional administration can become more effective under the conditions and challenges of American life today.
** Available only through your local bookstore.*

TEAD—The Art of Leadership
By ORDWAY TEAD.
308 *pp.*, 6 *x* 9 (1935).....$5.95*t*
Designed to be of service in two directions—to organizations trying to train executives to be leaders, and to individuals who are interested in improving their capacity either to lead on the job or to become leaders. It analyzes the nature of leadership and goes into detail to show what qualities can be given practical effect in hour-by-hour dealings with other people.

UMMINGER—Heroes, Gods, and Supermen
By WALTER UMMINGER.
406 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$7.95*td*
This colorful, thoroughly documented history of sports shows how human records of strength, perseverance, and skill have changed the course of civilization since the first hunting expeditions of early man to our own times and our own spacemen. Mr. Umminger guides the reader from antiquity to the present times, describing gladiators and champions, hunters and warriors who have been striving for records since the beginning of man's history. He writes of the great triumphs and famed victories and of the tragedies and bitter defeats, the personality cults that grow up, and the distinctions between courage and bravado. Far more than a book every sportsman and sports-minded person will want, it is an erudite, entertaining study written by a wise analyst of human history.

URIS—Discover Your Inner Self
The Art of Self-Communication
By AUREN URIS.
212 *pp.*, 5⅜ *x* 8, 15 *illus.* (1959)....$3.95*t*
This book shows clearly how any thinking person can come to know himself well and to apply self-knowledge successfully in every area of his life. Auren Uris, widely known expert in the management counseling field and author of *Developing Your Executive Skills* and *The Efficient Executive*, shows the reader how to go about becoming the person he wants to be and how to make decisions more effectively. Illustrating his points with case histories, Mr. Uris makes sound, helpful observations on such topics as conquering minor phobias, self consciousness, self-deception, personal relationships, and overcoming worry.

WHITEHEAD—Border Guard
The Story of the U. S. Customs Service
By DON W. WHITEHEAD.
320 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Tells the exciting story of the Customs Service from its beginning in the early days of the Republic to the present time. From piracy in old New Orleans to Louis Lepke, and from George Washington's administration to the morning headlines, the book is a story of high adventure as undertaken with professional calm

by the least famous branch of federal law enforcement. It is filled with fascinating historical sidelights, and many anecdotes about problems that still plague customs men, such as the perennial "What is a work of art?"

WRIGHT—Managing Yourself
By MILTON WRIGHT. Second Edition.
319 *pp.*, 5½ *x* 8 (1949).....$4.95*tL*
Helps the reader use what he has to get what he wants out of life—to use his talents successfully. There are sound, sensible pointers to help in memory training, combating inertia, increasing the power of concentration, bolstering self-confidence, and setting practical standards of accomplishment.

WRIGHT—The Art of Conversation
By MILTON WRIGHT.
354 *pp.*, 5½ *x* 8 (1936).....$4.95*t*
Shows how the principles of conversation may be applied. He has taken conversations apart in an effort to show just what makes them go, and cited actual conversations that produced results in specific situations.
CONTENTS—Improving Your Conversation. Getting Started. Just the Two of You. When the Talk Is General. Developing Repartee. How to Tell a Story. Conversational Combats. Learning to Be Tactful. Constructive Listening. Pros and Cons.

Humor

ARMOUR—Armour's Almanac
Or Around the Year in 365 Days
By RICHARD ARMOUR.
128 *pp.*, 5 *x* 7½, *illus.* (1962).....$3.95*td*
After months of labor with encyclopedias and reference books, that scrambled egghead, Richard Armour, author of the famed spoofs of history and literature, has outdone himself by writing a major work in a minor key—his Phi Beta Kappa key dipped in gall. Emulating Phileas Fogg, who went around the world in 80 days, Armour has gone around the year in 365, marking each day by some utterly forgettable event. Do you know when the first sardine was canned? How King Charles II got his first taste of cranberries? What kind of snake actually bit Cleopatra? Rudolph Valentino's real name? Here is your first, and probably last, chance to familiarize yourself with such information. *Illustrations by that very sharp Campbell Grant.*

ARMOUR—It All Started with Columbus
By RICHARD ARMOUR. Revised Edition.
136 *pp.*, 5 *x* 7½ (1961).....$3.95*td*
This shameless compendium of distorted fact and penetrating misinformation, written for people who read a single volume of history in school and swore they would never read another, has been revised and augmented to include President Kennedy and the latest developments on the national scene—Armour-style. It is, as usual, a highly palatable potpourri of nonsense and fun, more hysterical than historical, and contains drawings by Campbell Grant, the well-known conspirator in Armour's hilarity.

ARMOUR—It All Started with Europa
By RICHARD ARMOUR, Scripps College and Claremont Graduate School. Illustrated by CAMPBELL GRANT.
119 *pp.*, 5 *x* 7½ (1955).....$3.95*td*
A parody of European history, from the caveman to the Kremlin. This compendium of misinformation, misplaced persons, faulty facts and nonsensical knowledge answers many ridiculous riddles of history and successfully dismembers such well-known figures as Napoleon, Antony and Cleopatra, and Madame de Pompadour. All the Decisive Moments, Resounding Victories, and Fateful Decisions of history are discussed hilariously and illustrated appropriately with 75 drawings by Campbell Grant.

ARMOUR—It All Started with Eve
By RICHARD ARMOUR, Scripps College and Claremont Graduate School. Illustrated by CAMPBELL GRANT.
140 *pp.*, 5 *x* 7½, 75 *line drawings* (1956) $3.50*td*
*McG-H Paperbacks Ed.**
Thirteen of the famous "femmes fatales" of history, from Eve to Mata Hari, pass beneath the penetrating gaze of Mr. Armour in this devastating spoof of the alluring ladies of the ages. He exposes the First Triangle—Adam, Eve, and the Apple, or was it Adam, Eve, and the Snake? The problem of Marie Antoinette and her cake—did she or didn't she say "Let 'em eat it"—is discussed. Was Catherine the Great really great or did she just put on pounds over the years? Mr. Armour's nonsensical hilarity is further embellished by 75 line drawings from Campbell Grant who illustrated the two previous books.
** Available only through your local bookstore.*

ARMOUR—It All Started with Marx
By RICHARD ARMOUR.
125 *pp.*, 5 *x* 7½ (1958).....$3.50*td*
Armour aims again—and hits the Marx—with a delightful spoof of politics and politicians Russian style. In this, his latest safari into satire and the charming world of light, lighter and lightest humor, Armour romps through the history of Communism (with a brief history of Russia thrown in for good measure). There is a full quota of hilarious humor as Armour confidently sects and dissects the comic Comrades.

ARMOUR—The Classics Reclassified
By RICHARD ARMOUR.
146 *pp.*, 5 *x* 7½ (1960).....$3.95*td*
*McG-H Paperbacks Ed.**
Richard Armour, loose again and running wild through the "required reading lists," will delight everyone who ever drowsed in school (including teachers themselves). In this devastating parody on the classics, Mr. Armour retells seven great works identified, if scarcely recognizable, as *The Iliad, Julius Caesar, Ivanhoe, The Scarlet Letter, Moby Dick, Silas Marner,* and *David Copperfield.* Each is uproariously funny, and there are dizzying footnotes. For those who cannot read between the lines where Armour is at his best, there are 65 Campbell Grant drawings.
** Available only through your local bookstore.*

ARMOUR—Golf Is a Four-letter Word
The Intimate Confessions of a Hooked Slicer
By RICHARD ARMOUR.
128 *pp.*, 5⅜ *x* 8, *illus.* (1962).....$3.95*td*
*McG-H Paperbacks Ed.**
Fore! Look out for this latest book by Richard Armour, who, having made a shambles of history and literature, now runs wildly down the fairway and dodges in and out of the rough.

Golf is, for some, a mania, and Richard Armour is (or was, until he was mercifully freed from his obsession by psychiatric treatment) a golf maniac. How it all started (not, this time, with Columbus, Europa, Eve, or Marx, but with a snake-in-the-grass named Gordon), and how it all ended, is the theme of as unusual and funny a book as has ever been written on golf. Those hundreds of thousands who know Richard Armour, not only as a writer of prose satires that have been consistent best sellers, but as one of America's leading writers of light verse, will rejoice to find some of his verses on golf tucked into the back of the book, as a nineteenth-hole bonus. With tee-to-green illustrations by Leo Hershfield.

** Available only through your local bookstore.*

ARMOUR—The Medical Muse

By RICHARD ARMOUR.
228 *pp.*, 5 *x* 7½, *illus.* (1963).....$3.95*td*

Richard Armour, adds another to his best-selling books of humor and satire, as he now frolics in the field of medicine. Never having taken the Hippocratic oath, Armour has no inhibitions in writing about doctors, nurses, receptionists, patients, hospitals, wonder drugs, wonder druggists, and everything else in his scope (microscope, fluroscope and stethoscope).

ARMOUR—Nights with Armour

By RICHARD ARMOUR.
130 *pp.*, 5 *x* 7½ (1958).....$3.50*td*

Armour fans, old and new, will welcome this second collection of witty, charming and thoroughly engaging light verse by the popular author of *Light Armour*. A frequent contributor to *The Saturday Evening Post, New Yorker, Look* and *Better Homes and Gardens*, Armour has earned a large and enthusiastic following.

Armour's verse roams gaily in the verdant fields of the teen-age vernacular, present packaging problems, and atrocious attire. In all, and every part; pure delight.

Leo Hershfield, who also illustrated the best-selling *Light Armour*, provides 65 imaginative drawings for the 125 verses.

ARMOUR—Through Darkest Adolescence With Tongue in Cheek and Pen in Checkbook

By RICHARD ARMOUR.
175 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$3.95*td*

It is Richard Armour's contention (and who are we to disagree with him?) that adolescence is a disease, and one for which there is, alas, no vaccine or wonder drug. In this, his 24th book, satirist Armour dons a white jacket and views adolescence clinically. He writes with shrewd madness about such fundamentals as the bathroom, teeth straightening, acne, homework, chaperones, the strange dialect known as Teenese, cars, smoking, drinking, and sex. Taking teen-agers apart and putting them back together, with only a few parts left over. Heart rending illustrations by Susan Perl.

ARMOUR—Twisted Tales from Shakespeare

By RICHARD ARMOUR.
135 *pp.*, 5 *x* 7½, *illus.* (1957)
Cloth Edition $3.50*td*
*McG-H Paperbacks Ed.** $1.25*pbd*

Richard Armour rides again! Having ridden over history in his *"It All Started With—"* series, the uninhibited humorist now gallops gaily through the works of William Shakespeare, parodying the kind of Shakespeare text that has been read by millions of high school and college students. The plays which Armour retells in his own incredible way are *Hamlet* ("A tragedy of revenge. Shakespeare was obviously getting back at somebody"), *A Midsummer Night's Dream* ("Possibly a veiled hint that Queen Elizabeth, the Virgin Queen, could make use of a love potion"), *Macbeth* ("Full of beautiful passages, such as the hallway in Macbeth's castle, where Lady Macbeth loved to fingerpaint on the wall with other people's blood"), and other favorites illustrated with 62 hilarious line drawings by Campbell Grant that add much to the general gaiety.

** Available only through your local bookstore.*

BISSELL—You Can Always Tell a Harvard Man

By RICHARD BISSELL.
256 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962)....$4.95*td*

After deciding exactly what Harvard is, Mr. Bissell proceeds to relate its history, to debunk a few myths, to explain the so-called Harvard accent, and to write the most slanted book ever written about that institution. He admits it. His investigations are detailed, irreverent, sometimes astonishing, and often funny. As a personal memoir, it is a work of loving care, and it lingers on the pleasures, and describes the discomforts of student life from Harvard's seventeenth-century beginnings to the present. The book abounds in fine anecdotes, completely irrelevant facts about the days when the institution's assets included payments in Indian wampum, delightful comments on ancient regulations, discussion of the football team, the newspaper, menus past and present (and riots they caused), and a special chapter for Yale men. Richard Bissell is author of *High Waters, The Momomgahela* (a volume in the Rivers of America Series), *A Stretch on the River*, the novel *7½ Cents* on which the musical *Pajama Game* was based, another musical, *Say Darling*, and *Good Bye, Ava*, his most recent novel.

FEIFFER—Sick, Sick, Sick

By JULES FEIFFER.
McG-H Paperbacks Ed. $1.95*pbd*

A collection of cartoons with an impudent, off-beat humor, notably sharp, sophisticated and caustically observant. Feiffer, the chronicler of the "beat" generation, has been a much lauded contributor to *The Village Voice, Harper's, Pageant* and *Mademoiselle*. His young Cassanovas, defensive females, bar flies, cocktail party types, and amateur psychiatrists are all deftly speared with incisive, hilarious satire.

FEIFFER—The Explainers

By JULES FEIFFER.
McG-H Paperbacks Ed. $1.50*pbd*

This new collection of cartoons, a sequel to *Sick, Sick, Sick*, the smash best-seller of 1958, is another book of pointed, witty comments on the idiocy that underlies much of human activity. It shows all the sparkling originality and sardonic humor that has made Jules Feiffer world-famous. His people are completely and instantly recognizable, as anyone will agree who looks around at his friends, his relatives, his business associates, and himself.

FEIFFER—Passionella and Other Stories

By JULES FEIFFER.
McG-H Paperbacks Ed. $1.75*pbd*

The author of *Sick, Sick, Sick* has created this hilarious (and yet at the same time painfully serious) collection of cartoon stories. Here are the witty chronicles of Ella, the plain, rolypoly little chimney sweep who dreamed of becoming a glamorous movie star; Munro, a four-year-old who found himself drafted into the army with ridiculous and pathetic results; and George, who found himself alone on the moon. A final story—"Boom"—is Feiffer's brilliantly satirical account of the biggest bomb of all.

FEIFFER—Harry, the Rat with Women
By JULES PEIFFER.
200 *pp.*, 5 *x* 8 (1963).....$3.95*td*
Harry, the Rat with Women is not only one of the funniest novels ever written, it is also an acutely penetrating, brilliantly perceptive examination of the American male, the American female, Americans, males and females. "Little Harry was loved": loved in his youth by his mother, his father, his governess Fanny Braintree, by his cousin Gloria, by subversive Dr. McCandless, his Science Fiction I Professor, and by many others. Harry, the Rat with Women, entered his maturity looking more beautiful than ever. He was loved and taken care of by, among others, Brooks Brothers, the Waldorf, the beautiful aging Mabel Thurston ("the third lady of the American theatre"), and by a male-morality watchdog society, "The Blue Belles," who decided it was time to do something about Harry. The tale of what they did, makes one of the most wholly original novels of our time.

HAMILTON AND KLOSE—Everybody Duck
By VIRGINIA HAMILTON with VIRGINIA TAYLOR KLOSE.
260 *pp.*, 5⅝ *x* 8⅜, *photos, maps* (1962) $4.95*td*
The woman's angle—largely comic—enlivens one of the oddest travel adventures of recent years told in this story of a trip by amphibious Duck (Army surplus) from Huntington, Long Island to Buenos Aires. The craft, weighing 12 tons, and with a land speed of 25 miles per hour when it was feeling good, required a year to make the trip, its water speed being 4 miles per hour. Aboard, festooned with crossbows, aqualungs, and other impedimenta for living graciously and inexpensively off land and sea, were Virginia and Eric Hamilton, their four daughters, three college youths, a police dog, a monkey, and a parrot. That the ambitious exploit ended happily reflects Eric Hamilton's great talent for organization and command; that the story makes hilarious reading is a tribute to Virginia's multiple talents as wife, chaperone, and den mother—and her somewhat disbelieving view of the whole project.

Popular Psychology and Sociology

BISCH—Be Glad You're Neurotic
By LOUIS E. BISCH.
McG-H Paperbacks Ed. $1.95*pb**
An enlightening discussion showing neurosis as a refining and enriching influence present in many of the world's geniuses and leaders, and indicating how the neuroses may be capitalized by utilizing the special capabilities they serve to reveal. Included are such topics as self-consciousness, "change of life" in men, whether or not neurotics should marry, psychosomatic medicine and treatments.
* *Available only through your local bookstore.*

BROWN AND KEMPTON—Sex Questions and Answers
A Guide to a Happy Marriage
By FRED BROWN, Clinical Psychologist, Mt. Sinai Hospital, and RUDOLPH T. KEMPTON, Vassar College.
McG-H Paperbacks Ed. $1.95*pb**
Simple, direct, and authoritative answers to those questions most frequently asked on all aspects of sex. The questions were asked by thousands of men and women in open forum. Approved by outstanding doctors (including a gynecologist, obstetrician, internist, psychiatrist). CONTENTS—Introduction. The Biology of Sex. Problems of Sexual Adjustment. Problems of Love, Sex and Personality. Problems of Masturbation. Problems of Menstruation. Problems of Sexual Desire and Intercourse. Problems of Contraception. Problems of Sterility. Problems of Pregnancy. Problems of Venereal Disease. Psychological Problems of the Orgasm. Homosexuality and Variations in Sexual Expression. Some Comments on Sex Education. Index.
* *Available only through your local bookstore.*

BURKE—With This Ring
By JUDGE LOUIS H. BURKE with the GORDONS.
281 *pp.*, 5⅜ *x* 8 (1958).....$4.50*t*
Louis H. Burke, Judge of the Superior Court of Los Angeles, has evolved what may be a practical panacea for the ailing marriage. His unique Reconciliation Agreement, a voluntary written contract between marriage partners, has already proved its merit in countless marriages.
Included are actual case histories of couples who, with marriages floundering, turned to the Agreement for help. Judge Burke's detailed analysis of these cases, coupled with a compassionate understanding of why marriages so often go awry, will offer comfort, guidance and a workable solution for many struggling marriages.
The Gordons, Judge Burke's collaborators in *With This Ring*, are the talented husband-and-wife team who have scored outstanding successes in their novels, in movies, and in television.

CONANT—The American High School Today
A First Report to Interested Citizens
By JAMES B. CONANT.
140 *pp.*, 5⅜ *x* 8 (1959) Cloth Edition $2.95*t*
*McG-H Paperbacks Ed.**
This book is an eminent educator's penetrating look at teaching methods and the curriculum in American high schools. Dr. Conant, President-Emeritus of Harvard University and our former Ambassador to the Federal Republic of Germany, wrote it after a study of secondary schools all over the United States. He states his recommendation firmly—none with more force than his central conclusion that the high schools must gear themselves more carefully to the exceptional student. "The Conant Report" is one of the most important books on American education ever published; it is of urgent interest to everyone concerned with the effectiveness of American education.
* *Available only through your local bookstore.*

LAIRD AND LAIRD—The Technique of Handling People
By DR. DONALD A. LAIRD and ELEANOR C. LAIRD. Revised Edition.
189 *pp.*, 5½ *x* 8, 11 *illus.* (1954)...$4.50*tL*
A popular, well-written, and practical manual presenting a simple, workable technique of handling others. Gives pointers on what to say and do in everyday contacts with others in order to win their friendship, good-will, and

cooperation and emphasizes the subject of human relations in business and industry. The methods are clearly demonstrated in numerous stories of real people of today that include the experiences of outstanding business and industrial leaders. Together, these techniques form a direct, easy-to-understand, easy-to-use set of tools for improving your human relations, and especially for securing the best results in training, directing, supervising, and other areas demanding successful leadership.

LAIRD—The Technique of Getting Things Done

By Dr. Donald A. Laird.
310 *pp.*, 5½ *x* 8 (1947).....$4.95*tL*

Shows how to overcome the biggest handicap to success—the inability to get things done. This helpful book offers you detailed outlines of the success-bringing techniques *discovered, tested,* and *proved workable* by over 300 men and women who climbed to the highest positions in government, industry, and science. Provides practical, time-proven solutions to such problems as how to plan your work, how to make decisions quickly, and how to apply yourself to tasks you dislike.

LAIRD—The Technique of Building Personal Leadership

Proved Ways for Increasing the Powers of Leadership

By Dr. Donald A. Laird. Assisted by Eleanor C. Laird.
210 *pp.*, 5½ *x* 8 (1944).....$4.50*t*

From the qualities of successful leadership which proved of greatest value to prominent men of our time, the reader learns how he can develop and strengthen these traits in his personality and character. Personal magnetism—directness—poise—self-confidence—optimism—tact—progressiveness—perseverance—decisiveness; here are a few of the qualities determining the outstanding careers of such men as Harvey S. Firestone, Teddy Roosevelt, and a host of others. This book will show how to bring out these traits and how to use them advantageously in securing and in carrying out important executive work.

LAIRD AND LAIRD—Techniques for Efficient Remembering

By Donald A. Laird and Eleanor C. Laird.
187 *pp.*, 5⅜ *x* 8, *illus.* (1960).....$5.00*t*
*McG-H Paperbacks Ed.**

Four simple rules and their everyday application can double the efficiency of the reader's memory. The authors offer their four general rules, emphasizing the "why" and "how to" of all four, and giving practical, specific applications of each technique. The rules are based on solid psychological foundations, and the book describes straightforward methods for memory improvement, rather than artificial aids and elaborate systems of association. It is a sound, accurate guide for businessmen, professional people, workers throughout industry, housewives, and students.

** Available only through your local bookstore.*

LAIRD AND LAIRD—Tired Feelings and How to Master Them

A Practical Summary of Techniques for Home and Business

By Donald A. Laird and Eleanor C. Laird.
198 *pp.*, 5⅜ *x* 8 (1961).....$4.50*td*

For widely different reasons, all of us at times are tired mentally or physically. In this unique book, giving precise information on the mastery of tired feelings, the reader is provided with specific case histories on the effects of fatigue, and the steps with which to counteract the different kinds of fatigue described. Half of the book is devoted to actual case histories, and the other half to the means of overcoming the various tired feelings. The two final chapters explain the individual's role in mental and physical fatigue as well as the employer's ability to help his employees.

MURTAGH AND HARRIS—Cast the First Stone

By John M. Murtagh, Chief Magistrate of the City of New York, and Sara Harris, Social Worker and Writer.
McG-H Paperbacks Ed. $1.95*pb**

This important and explosive book deals with the customs, mores, traditions, and taboos—and how the law deals with them—in the secret world of the oldest profession. It is the first serious attempt to explore the secret world of prostitution as it exists today in America. As Chief Magistrate of the City of New York, John M. Murtagh has jurisdiction over Women's Court. This book grew in part out of his close contact with the problem and his conviction that our present approach to the problem through our laws, our courts, and our prisoners is woefully inadequate and needs to be seriously and soberly re-examined. The problem is not solved, rather it is presented to shed light on a grave and pressing sociological problem. Together Judge Murtagh and Mrs. Harris have made an important and authoritative contribution.

** Available only through your local bookstore.*

RAMOS—Profile of Man and Culture in Mexico

By Samuel Ramos, Univ. of Mexico; translated by Peter G. Earle, Wesleyan Univ.
198 *pp.*, 5⅝ *x* 8 (Univ. of Texas Press, 1962; McG-H Paperbacks Ed., 1963).$2.25*pb*

Published in Mexico thirty years ago, this was the first effort by a Mexican scholar to place the culture and psychology of his countrymen in perspective of both their Indian and their European origins. The author's purpose is to assist in the spiritual reform of Mexican life by developing a theory that might explain the real character of the Mexican and his culture, and by discovering in the history and psychology of his countrymen a foundation for distinctive, independent cultural development. In this first English translation, a great book is made available to English-speaking readers.

Popular Science and Medicine

CORRINGTON—Exploring with Your Microscope

By Julian D. Corrington.
248 *pp.*, 6⅛ *x* 8⅛, *illus.* (1957)....$5.95*td*

A book for the hobbyist and junior scientist which not only gives basic information about the microscope and how to use it, but also introduces the reader to the whole fascinating world of science revealed by the microscope. Here are described the miniature world of protozoa; algae, fungi, and bacteria; threads and fibers in textiles of all kinds; sections of

tissue; and the use of the microscope for examining finger prints, hairs, bullets, documents, and other items related to detective work.

DAVIS—Every Woman's Book of Health
By MAXINE DAVIS.
296 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*td*
In this trustworthy, sympathetic book, as vital and valuable to the young bride as to the elderly woman, Mrs. Davis describes and explains feminine development from menstruation to menopause. She writes of conception, pregnancy and childbirth, miscarriage, and contraception and infertility, and, in her reassuring, authoritative manner, deals with common female troubles, the more serious illnesses, and surgery. The manuscript has been checked by doctors and institutions associated with the Harvard Medical School and by the Boston Lying-In Hospital. The book is a lifetime guide and constant source of reference for women of every age, written by the author of the highly regarded *Women's Medical Problems, Facts about Menopause, Sex and the Adolescent,* and *Sexual Responsibility of Woman.*

ENGEL—The Operation
By LEONARD ENGEL.
300 *pp.*, 5⅝ *x* 8⅜ (1958).....$4.95*td*
The true story of a fifteen-year old girl's miracle heart operation and of the dramatic history behind modern medicine and surgery.

The operation is performed by Drs. C. Walton Lillehei and Richard L. Varco, the famous University of Minnesota surgeons who led the world in developing "open heart surgery." The progress of the operation is charted step-by-step. Every facet of operating-room procedure is vividly brought to life as the reader follows the progress of a startling medical advance. Leonard Engel, a noted and experienced journalist, has written an engrossing, memorable and authentic book with all the power and drama implicit in man's fight for health and survival.

JACOBSON—You Must Relax, 4th Ed.
By EDMUND JACOBSON.
254 *pp.*, 5 *x* 7½ (1957).....$5.95*t*
*McG-H Paperbacks Ed.**
A book which is able to show thousands of people the way to relieve nervous strain, fatigue, sleeplessness, and other ailments brought about by the tension and uncertainty of modern life. Presented simply and concisely, all the principles are based on techniques successfully used in famous medical clinics. The book contains latest medical and psychological information on relaxation. New discussions cover the reasons for tensions in modern living, tension and heart attacks, high blood pressure, anxiety and its relation to ulcers, tranquillizers, and quieting the nerves.
** Available only through your local bookstore.*

POLLACK AND MORSE—How to Reduce Surely and Safely
By HERBERT POLLACK and ARTHUR D. MORSE.
157 *pp.*, 5⅜ *x* 8, *illus.* (1955)
Cloth Edition $2.95*td*
*McG-H Paperbacks Ed.**
A practical, authoritative diet book that explains how to take off weight without resorting to quack methods or fad diets. The author, a physician and nutritionist, presents a proven formula for steady weight reduction based on the calorie content in food and on the calories disposed of in daily work. The dangers of being overweight, the function of calories, an exposé of so-called wonder foods and drugs are included, as well as a complete schedule for weight reduction week by week.
** Available only through your local bookstore.*

SELYE—The Stress of Life
By HANS SELYE.
320 *pp.*, 5⅝ *x* 8⅜, 36 *illus.* (1956)..$5.95*td*
*McG-H Paperbacks Ed.**
One of the most widely acclaimed medical scientists of our age now gives his world-famous modern stress concept in medicine in terms readily understandable to laymen. Dr. Hans Selye, whose work has been featured in such leading magazines as *Life, Fortune, Time.* and *Reader's Digest,* explains the mechanisms and philosophy of stress and shows what can be done to combat faulty and harmful reactions to stress. He tells how to handle ourselves during the stress of everyday life, how a knowledge of bodily changes during stress can help us to tune down when we are wrought up, to overcome insomnia, and many other practical applications. This authoritative work is a unique contribution to better understanding of stress—for both scientist and the general reader.
** Available only through your local bookstore.*

Biographies and Autobiographies

ARMOUR—Drugstore Days
My Youth Among the Pills and Potions
By RICHARD ARMOUR.
192 *pp.*, 5⅜ *x* 8 (1959).....$3.50*td*
The author of *It All Started with Columbus, Twisted Tales from Shakespeare* and other hilarious satires and books of light verse has written a very funny memoir of life in his family's drugstore. From his Shakespeare quoting grandmother to his uncle who kept inventing soft drinks with slogans like ("Not a Burp in a Bottle"), Richard Armour's relatives and childhood associations make for a delightful glimpse of America half a century ago. Here is the same irrepressible humor which characterized Armour's earlier best sellers, plus a new and appealing quality of nostalgia.

BAKER—Out on a Limb
By LOUISE BAKER.
213 *pp.*, 5½ *x* 8 (1946).....$4.50*td*
Louise Baker was eight years old when she took a forbidden, first, and nearly fatal ride on a bicycle. Ever since, all her roller-skating, skiing, dancing, swimming, and tennis have been done on one leg. And Louise Baker has gone farther on crutches than most people do with two feet—and had much more fun. She writes

of a wonderfully hilarious trip to Europe, of her own highly unconventional means of holding her beaux in college, of competing with reporters for news beats, and of writing two other best sellers.

BENCHLEY—Robert Benchley
A Biography
By NATHANIEL BENCHLEY. Foreword by ROBERT E. SHERWOOD.
256 *pp.*, 5⅝ *x* 8⅜ (1955).....$3.95*td*
One of America's best-loved humorists is at the center of this biography by his son, based in part on Robert Benchley's private papers and diaries and supplemented by the memories of those who knew and loved him best. The author has rounded up the many anecdotes and stories of his father and combined these with known facts to present a fresh and fascinating picture of a man who made himself a picture of the universal male completely befuddled and at times beaten by life.

BRIDGES—Lee's Maverick General
Daniel Harvey Hill
By HAL BRIDGES.
324 *pp.*, 5⅝ *x* 8⅜ (1961).....$7.50*td*
From collections of family papers and research in the archives of numerous historical societies, libraries, and private files, Hal Bridges has created an absorbing book about one of the great generals of the Civil War, General Daniel Harvey Hill. A brilliant and biting critic of Lee's decisions, but a firm friend who recognized Lee's full genius, Hill has never been recognized as the towering figure history should have made him. There are new viewpoints and material on Hill and Lee, as well as on Jeb Stuart, Jubal Early, Jefferson Davis, and many others, plus extraordinarily significant "revisions" to the complete story of Confederate battles, from Bethel to Antietam, brought to light by these letters and diaries.

COVELLO—The Heart Is the Teacher
By LEONARD COVELLO with GUIDO D'AGOSTINO.
300 *pp.*, 5⅝ *x* 8⅜ (1958).....$4.95*t*
The other side of "The Blackboard Jungle."
The dramatic, inspiring story of Leonard Covello, teacher and educator, who has devoted more than half a century to the education of the children in New York's East Harlem melting pot.
Richly documented with incidents from his long career as teacher and principal of the Benjamin Franklin High School, *The Heart Is the Teacher* is an inspiring story. It shows the heartwarming results that can be achieved with underprivileged and "difficult" children by skillful and dedicated teachers.

CROMIE AND PINKSTON—Dillinger
A Short and Violent Life
By ROBERT CROMIE and JOSEPH PINKSTON.
280 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
Drawing on material never made public, the authors reveal that events in John Dillinger's youth provide clues to the ultimate character that intrigued millions of people. Dillinger, at the last became a hero in a sense, and his captors and executioners were the villains, a phenomenon that Mr. Cromie feels illustrates an extreme example of ambivalence and tensions found in many Americans. The eyewitness accounts of the slaying, and the descriptions of events that followed in the Chicago morgue are as shocking examples of the public's emotions and behavior as may be found anywhere.

CURRENT—The Lincoln Nobody Knows
A Portrait in Contrasts of the Greatest American
By RICHARD N. CURRENT.
320 *pp.*, 5⅝ *x* 8⅜ (1958).....$5.50*t*
An exploration of the fascinating enigmas of Abraham Lincoln's personality. Richard N. Current, a devoted Lincoln scholar and noted Civil War authority, has carefully researched all the areas that the inscrutable Lincoln himself shielded from public view—from highly personal relationships to matters of public record that have many strange and conflicting interpretations. Written with insight and compassion, this book is a brilliant disclosure of the facts and fallacies of the Lincoln legend.

DE LISO—Padre Pio
The Priest Who Bears the Wounds of Christ
By OSCAR DE LISO.
265 *pp.*, 5⅜ *x* 8 (1960).....$4.95*td*
A dramatic biography of the Italian monk-priest who has borne the five open wounds of the stigmata for forty-two years, this is a superb, full length book devoted to the inspiring life of Padre Pio. His early determination to serve Christ led him to mysticism and religious training, and then to a permanent residence in the Capuchin monastery at San Giovanni Rotundo, where in 1918 the stigmata became visible. Credited with many miraculous cures since then, Padre Pio has become the center of a spiritual community that draws thousands of pilgrims every year. Under his guidance, an internationally financed five-million dollar hospital, the Fiorello La Guardia Clinic, has been completed, and named in honor of the late mayor's contribution through the UNRRA fund. *Imprimatur.*

DI DONATO—Immigrant Saint
The Life of Mother Cabrini
By PIETRO DI DONATO.
246 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.95*td*
Mother Cabrini grew up inspired by tales of courageous missionaries and clerics and was determined to become one of them. But illness prevented her from becoming a nun until, at the age of thirty, she founded her own order, and was sent by Pope Leo XIII as his special emissary to the Italian immigrants in New York. There where thousands of homeless, frightened Italian immigrants arrived every day, she offered the food, shelter, love and the guidance they needed. Here is the warm and inspiring story of America's first and—presently—only saint, Mother Cabrini, who before her death in 1917, founded some fifty orphanages, hospitals, and schools, and gave hope and love to untold thousands of children. *Imprimatur.*

ENGEL—Medicine Makers of Kalamazoo
By LEONARD ENGEL.
261 *pp.*, 5⅜ *x* 8, 9 *illus.* (1961).....$4.50*t*
A fascinating and authoritative account of the colorful history of the Upjohn Company and the Upjohn family. Woven into the fabric of the story is a vivid record of the vast changes which took place in the pharmaceutical field and the field of medicine during the last two generations.
CONTENTS—What Has Medicine Accomplished. The Steeds of Progress. The Inventive Doctor. Dr. W.E.'s "Big Thing." Beginning of Upjohn Research. Vitamin

Venture. A Problem of Succession. Wartime Work. The Long Harmone Road. To Cortisone and Beyond. Architecture and Antibiotics. Breakthrough on Diabetics. The Many Sides of Modern Pharmaceutical Research. The Critical Test. Pharmaceutical Engineering. Even Medicine Must Be Sold. Medicine Makers of Kalamazoo. The Useful Cycle.

FISHER—To Light a Candle
An Autobiography of the American Missionary Who Founded Literacy Village
By WELTHY HONSINGER FISHER.
320 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.95*td*
When Welthy Honsinger came to New York from her upstate home town, she fully expected a successful career in grand opera. By chance, she happened to attend a Methodist missionary meeting at Carnegie Hall, and within a year, she left for China. At twenty-six, she was head of a school for young ladies 600 miles upriver from Shanghai, and in a very short time she was running the town around her school, with an effective feminine finger in all the provincial pies. America's entry into World War I ended Welthy's missionary career in China. In 1924, she married Dr. Fred Fisher, the Methodist Bishop of India and Burma, and for the next fourteen years, shared devotely and joyously in his life, whether duties took him to the tropical plains of India, the wilderness of Australia, or the crowded streets of Detroit. Widowed in 1938, she continued her missionary work, founding Literacy Village in 1952. From it, 4,000 trained teachers have gone out to all parts of India, and today, Welthy is one of the most beloved non-ugly Americans on earth. *To Light a Candle* is her warm, engaging, and altogether delightful story.

FULLER—A Foot in the Door
As told to Hartzell Spence
By ALFRED C. FULLER.
240 *pp.*, 5⅜ *x* 8 (1960).....$4.50*td*
This warm and humorous biography of Alfred C. Fuller, who founded the famous Fuller Brush Company, will not only delight readers by its candid human qualities but also by the fantastic success story it tells and its most unusual twist. The Fuller Brush Man is familiar to every American, and this biography of Fuller's extraordinary president who attuned himself to "the metaphysics of the universe" (and solved his problems metaphysically as he built his vast company) is filled with unique anecdotes and exciting recollections. The Fuller Brush Company succeeded admirably, even as it varied from normal business patterns, and Alfred C. Fuller's story is completely unique as a biography of a businessman.

GUTHRIE—A Life in the Theater
By TYRONE GUTHRIE.
384 *pp.*, 5⅝ *x* 8⅜ (1959).....$5.95*td*
*McG-H Paperbacks Ed.**
Tyrone Guthrie, "the most important international theater director today" (*New York Times*), takes the reader behind the curtains of the world's greatest theaters to tell the story of his extraordinary career. Mr. Guthrie traces his fledging attempts at directing in the Oxford Dramatic Society, his early experiences at BBC, his apprenticeship in repertory theater, and his rise to fame as director of the Old Vic. Vibrant, entertaining, vitally alive, Tyrone Guthrie has written a book that reflects his zest and keen wit. The pages are crowded with great figures of the theater such as John Gielgud, Laurence Olivier, Charles Laughton, and many others. For general readers, and for students and people in the profession itself, the book will provide a liberal education in plays, players, and the director's art.
** Available only through your local bookstore.*

HOOVER—The Ordeal of Woodrow Wilson
By HERBERT HOOVER.
318 *pp.*, 6 *x* 9, 21 *illus.* (1958)
Cloth Edition $6.00*td*
*McG-H Paperbacks Ed.**
A tragic chronicle of the six crucial years of Wilson's public life, from the sinking of the *Lusitania* in 1915 to the final defeat of the League of Nations in the United States Senate.
As head of Belgian Relief, as U. S. Food Administrator, and as a member of Wilson's American Advisory Council, Herbert Hoover was one of Wilson's intimate circle of advisors and a trusted confidant. From 1915 to 1921 in Washington and in Paris, he had an intimate view of Wilson's agonizing struggle to bring peace and justice to a cynical and selfish world. The book highlights Wilson's tragic struggles—his attempt to guide the Versailles Conference to a just treaty, his struggle to establish the League of Nations, and his own personal fight against a paralyzing stroke.
Through Mr. Hoover's pages walk the fascinating figures of Versailles—Clemenceau and Lloyd George, Colonel House, Orlando, Secretary of State Lansing, Bernard Baruch.
Written by a conservative Republican about a Jeffersonian Democrat, the book is filled with profound human insights. It is a magnanimous appraisal of one of this country's greatest men, and a stirring testament to the highest purpose of American political thought.
** Available only through your local bookstore.*

JOSEPHSON—Edison
A Biography
By MATTHEW JOSEPHSON.
McG-H Paperbacks Ed. $2.95*pb**
Edison the man, the myth, the American folk hero is viewed in this definitive biography by the author of *The Robber Barons*. A wealth of previously unavailable material makes this new study of Thomas Alva Edison not only the most comprehensive but also the most dramatic and vivid life ever written of the great American. *Edison* not only tells of the inventor's myriad accomplishments, such as the invention of the electric light, the movie camera, the phonograph, but also brilliantly defines his place in history—a man halfway between the craftsman tinkerer of the 19th century and the corporation scientist of today.
** Available only through your local bookstore.*

LAWRENCE—T. E. Lawrence by His Friends
Edited by A. W. LAWRENCE.
400 *pp.*, 5⅜ *x* 8 (Doubleday, 1937; McG-H Paperbacks Ed., 1963).....$2.95*pbg*
This unusual anthology was first published by Jonathan Cape in England in 1937; it was abridged by Cape in 1957; the McGraw-Hill edition is a combination of the earlier and later editions. The best way to indicate the caliber of this collaboration is to list some of Lawrence's friends: G. B. Shaw, Winston Churchill, Lord Halifax, Sheikh Hamoudi, Robert Graves, Chaim Weizmann, E. M. Forster, Ernest M. Dawson, David Garnett, L. B. Namier, Lowell Thomas. In addition to the above there is a new piece on T. E. Lawrence by W. H. Auden. This collection, edited by the brother of T. E. Lawrence, is

not by any means solely a book of praise; it is written rather in a highly personal and candid manner. It is unusual indeed that a myth such as Lawrence should be written about by so many distinguished friends in one volume.

LINCOLN—Vice-President in Charge of Revolution
As told to David Karp
By MURRAY D. LINCOLN.
342 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.95*t*
*McG-H Paperbacks Ed.**

The story of a man—and an idea that caused an economic revolution—this book tells of Murray D. Lincoln, an American business executive who emerged from rural origins to become a figure of international importance today. President of Nationwide Insurance, Mr. Lincoln was a pioneer in the American cooperative movement, and in this fascinating record of an uncommon man's education in business and human relations, he tells how the movement grew, and what his revolutionary economic program holds for the future of America, and for the world.

** Available only through your local bookstore.*

LOWE—Portrait
The Emergence of John F. Kennedy
By JACQUES LOWE.
224 *pp.*, 8½ *x* 11, *illus.* (1962).....$8.95*td*

Not since Brady photographed Abraham Lincoln has a photo-journalist captured the very spirit of an American President as memorably as Jacques Lowe's portrait of John F. Kennedy. Unlike Brady, Lowe had the unique opportunity of covering a presidential campaign from start to finish, as Kennedy's official campaign photographer. He had the privilege of witnessing the minute-by-minute decisions and the crucial meetings that led to Kennedy's nomination. During the Democratic convention in Los Angeles Lowe was practically locked in with the candidate in his Biltmore Hotel suite for ten solid days. Both before and after the official nomination he was present at the initial formulation of Kennedy's New Frontier, its platform and policies. His camera recorded in minute and intimate detail every phase of planning and action that went into the nomination and campaign. *300 photographs.*

LUTHULI—Let My People Go
By ALBERT LUTHULI.
280 *pp.*, 5⅝ *x* 8, *illus.* (1962).....$5.95*td*

Ex-Chief Luthuli of South Africa, winner of the 1960 Nobel Peace Prize—granted in October, 1961—is confined to his farm in Natal, denied freedom of movement, and forbidden all political activity. In his book, he writes of his lifelong, nonviolent fight against racial discrimination in South Africa, a struggle he once summed up with the plaintive words, "Who will deny that thirty years of my life have been spent knocking in vain, patiently, moderately and modestly at a closed and barred door?" The son of an African Christian missionary, Mr. Luthuli was educated at Adams College, an American missionary institution, and later taught before being made tribal chief. He tells his whole moving story in this fine but sobering and tragic book.

MAIER—A Man Spoke, A World Listened
By PAUL L. MAIER.
320 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*t*

This affectionate biography, written by the son about a famed father, tells the story of Dr. Walter Maier, creator of, and preacher on the Lutheran Hour, which attracted a radio audience of millions in the 1930s and '40s. In writing of his father, Paul Maier relates the fascinating story of a man who, at the peak of his career, broadcast regularly to more than a thousand stations in a hundred countries and was translated into some thirty-five languages.

MARCONI—My Father, Marconi
By DEGNA MARCONI.
352 *pp.*, 5⅝ *x* 8⅜ (1962).....$7.50*td*

This richly detailed biography of a fascinating man—Gugliemo Marconi, the "father of wireless"—is written with affection and pride by his daughter. She tells not only of the excitement and glamour of his fame as a world-renowned inventor, but of the conflicts and passions of his personal life. Born in 1874, Marconi invented the wireless at the age of 20, patented it at 22. He spent years perfecting it, proving it, and protecting it. He had to be "diplomat and financier, legalist, yachtsman and officer," and his life was one of travel and honors. The book covers his earliest experiments, his great discoveries, his struggles and losses, visits to the United States and Russia, the Nobel Prize award, and the Titanic disaster; and gives an intimate picture of the other side of his life—the dedication, the personal sacrifices he and many others made, his role as husband and father, and the strangely sad aftermath of his fame. It is the portrait of an era, as much of a man, and a scientist, political, and financial adventure.

MARDIKIAN—Song of America
By GEORGE MARDIKIAN.
320 *pp.*, 5⅜ *x* 8 (1956).....$4.50*t*

This is the autobiography of an extraordinary man—a man who discovered in America a spirit and beauty seen by few native sons. George Mardikian, owner of the fabulous Omar Khayyam's restaurant in San Francisco, came to America in 1922—penniless and unable to speak English. Thirty years later he was an honored dinner guest of the President of the United States. This is the story of his rise to success and of his gratitude for the opportunity America gave him. It is a warm and dynamic story that brings home in a refreshing and highly original manner the thrill of the great American adventure.

MAUROIS—Adrienne
The Life of the Marquise de La Fayette
By ANDRÉ MAUROIS.
484 *pp.*, 6 *x* 9 (1961).....$7.95*td*

One of the most appealing heroines in history has been "rediscovered" through letters and documents forgotten for a century in a French chateau. Adrienne, Marquise de La Fayette, "born of two highly placed and powerful families," was married at fourteen to the Hero of Two Worlds. She grew up to honor and protect him, ultimately following him into exile and sharing prison with him. In 1955, when the lineal descendant of de La Fayette inherited the family chateau, he opened some tower rooms that had been locked since 1834. To his astonishment he found a vast treasure, including thousands of letters, mementos of the American Revolution, diaries, and General de La Fayette's personal library. The whole collection was put at the disposal of André Maurois, who agreed that the story of Adrienne

deserved to be told. The result is a spellbinding biography by one of the "immortels" of the French Academy.

MIGEO—Saint-Exupéry
By MARCEL MIGEO.
330 *pp.*, 5⅜ *x* 8⅜, *illus.* (1960)....$5.95*tg*
A superbly documented biography of the great French aviator and author of *Night Flight, The Little Prince* and *Wisdom of the Sands,* this biography tells the story of a now-legendary modern figure by a life-long friend with deep kindred feelings. Highly gifted and generous, Saint-Exupéry had two passions—writing and flying—which, coupled with his sense of discipline and his sensitivity, made him the living embodiment of "the man alone," the poet meditating on the tremendous forces around him in nature. At the time of his tragic death in 1944, when his plane vanished during an Allied reconnaissance flight, Saint-Exupéry was a hero to French youth, and warmly admired in every country where his works were published. For the first time in this book, the circumstances surrounding his death are clarified.

NORTH—The Alexander Memoirs, 1940–1945
Edited by JOHN NORTH.
209 *pp.*, 5⅝ *x* 8⅜, *illus.* (1963)....$5.95*td*
During World War II, he was known as "Winston Churchill's fire brigade chief 'par excellence': the man who was always dispatched to retrieve the most desperate situations," and today he is still one of the most highly respected of Britain's military leaders. The master-planner of those victories has set down his own very personal and candid account of the years between 1940 and 1945, telling of his defeats as well as his victories, and giving his impressions of the great figures of World War II—Montgomery, Patton, Clark, Eisenhower, Allanbrooke, and the great Churchill himself.

PETERS—Rainer Maria Rilke
Masks and the Man
By H. F. PETERS, Portland State College.
226 *pp.*, 5⅛ *x* 8 (Univ. of Washington Press, 1960; McG-H Paperbacks Ed., 1963) $2.65*pb*
This is the first full-length critical biography of the famous German poet to appear in paperback. It has been said that poetry in the 20th century has been dominated by three major figures: Paul Valery, T. S. Eliot, and Rilke. Surprisingly, however, there has been little work done—as yet—on Rilke. Professor Peters' work examines both the poems of Rilke and the man himself. To preserve their original spirit and form, the poems are quoted in German or French as well as in English.

POLING—Mine Eyes Have Seen
By DANIEL POLING.
320 *pp.*, 5⅝ *x* 8⅜, *illus.* (1959).....$5.00*td*
The warm-hearted, deeply inspirational personal story of Dr. Daniel Poling, author, editor of *The Christian Herald,* teacher, columnist, and nationally beloved minister, who shares his rich and exciting life from a pioneer Oregon boyhood through his emergence as a famous spiritual leader. Writing of his deeply religious family, his experiences as a chaplain in World War I, his role in political battles, the death of his chaplain son at sea during World War II, and of his intimate friendships with many of the world's leading figures, Dr. Poling tells the story of a significant, dedicated life that has touched and helped many thousands of people. His credo, born of wartime experiences, his thoughts as a father and minister when faced by death and personal tragedy, his warm reflections on our time, are all conveyed in his biography with eloquent feeling and emotion.

POLLOCK—Hudson Taylor and Maria
By J. C. POLLOCK.
224 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
A true tale of adventure and a tender love story in old Imperial China—the lost world of mandarins and dragon-roofed temples of a century ago—this is the biography of a Yorkshire boy and the wife he met in China. Together they accomplished the seemingly impossible in the face of opposition, both oriental and western. Possessed by the idea that under God's guidance, he would evangelize the four hundred million Chinese souls, Hudson Taylor was the first Protestant missionary to penetrate the interior of China. Physically far from robust and ill-prepared for the ordeals ahead, he managed to get assigned to China where he met and married Maria Dyer over the protests of her guardian. The young couple trained missionaries, raised funds, and founded the China Inland Mission, sharing the dramatic, harrowing, but always exuberantly dedicated experiences that today are nearly legendary. J. C. Pollock, an ordained clergyman, and a free-lance writer, is the author of *Earth's Remotest End* and a contributing editor to *Christianity Today.*

REYNOLDS—By Quentin Reynolds
By QUENTIN REYNOLDS.
320 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Famed war correspondent, and intimate friend of the great and near great, Quentin Reynolds now tells his own fascinating story. Reynolds served longer than other foreign correspondents in World War II, and his life—from his job as sports writer on the old *New York World* through his dramatic wartime experiences in France, England, Russia, North Africa, and Italy, to his history-making libel suit against Westbrook Pegler—crams this book with excitement and importance.

SAMS—White Mother
By JESSIE B. SAMS.
250 *pp.*, 5⅜ *x* 8 (1957).....$4.50*td*
The touching and true story of two Negro girls. An inspiring narrative of two little Negro girls rescued from an impoverished, hopeless, and loveless life by a compassionate woman, whom they came to love as their White Mother. Veanie and Mingie were just seven years old, half-savage, ragged and dirty, deserted by their stepmother and caring for their dying father, dependent on their wits for their food, when chance brought them to Mrs. Lee's door in the small Florida town which was their home. Told by Mrs. Jessie Sams, who was Veanie, *White Mother* shows how Mrs. Lee fashioned from these little savages two lives of dignity and achievement. There is humor and pathos in the children's first introduction to a bathtub, in their disbelief at having plenty of food without having to steal, in their first difficult days at school, and Mrs. Lee's patient attempts to open up bright new worlds for them. No sermon on intolerance, no tirade for or against desegregation could hit home with the impact of this warmly appealing story.

SCHORER—Sinclair Lewis
An American Life
By Mark Schorer.
867 *pp.*, 6 *x* 9 (1961).....$10.00*td*
This monumental biography *of* a major American writer *by* a major American writer traces Lewis from his acutely lonely childhood to his pitiful, tragic death. One of the most financially successful authors ever published in this country, he was also the most highly regarded author, both here and abroad, and the first American to win the Nobel Prize for Literature. Yet, Mark Schorer says, he was one of the most unhappy, haunted, tormented men who ever lived. His story is all here—his triumphs and failures, his mad, terrifically funny adventures, his endless preoccupation with work, his incredible rages, and touching moments of tenderness. It is a compellingly sympathetic and complete portrait of a great figure, living in heightened terms the kind of life all Americans can understand, for it was finally an American life.

SEAGER—And Tyler Too
By Robert Seager.
750 *pp.*, 6 *x* 9 (1963).....$12.50*td*
A dual biography of John Tyler and his second wife, Julia, based on the Tyler family papers, made available here for the first time. Insights into John Tyler's political and social life are given here in great detail, along with the spirited personality of his wife, a member of the socially prominent Gardner family.

SEGAL—Into Exile
By Ronald Segal.
319 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.95*td*
Far more than a plea for justice and simple humanity in South Africa, *Into Exile* is a deeply personal document—sometimes humorous, but always passionately honest and thoroughly informed. Ronald Segal tells of his early intellectual growth, and of his unavoidable collision with the South African government, when his political ideals forced his flight into exile. Despite the bewildered reproaches of his family, who feared any engagement in opposition politics, he established South Africa which quickly became a foremost international review opposing racialism. He persisted until 1960, when racial tensions erupted in the now infamous township of Sharpeville. Hundreds were injured, mass arrests took place, public buildings and schools were destroyed and the police were searching for Ronald Segal among hundreds of others.

SHAH OF IRAN—Mission for My Country
By the Shah of Iran, Mohammed Reza Pahlavi.
328 *pp.*, 5⅝ *x* 8⅜ (1961).....$5.95*td*
A revealing book by a dedicated reigning monarch, who writes of his nation, its history, and his own personal life with candor and eloquence, *Mission for My Country* is both an autobiography and an historical account of Iran. The Shah is so closely involved with the past, present, and future of his country that, throughout the book, personal narrative and affairs of state are merged. No reigning monarch has ever before written such a book—a book filled with unique glimpses into his own private life, his court and family, as well as fascinating discussions of the distant and recent history of Iran, with frank explanations of the country's weaknesses and needs if it is to emerge as a strong free nation in a free world. The Shah writes of his father's rise to power amid revolution, of his own unconventional childhood, of his Teheran meetings with Roosevelt, Churchill, and Stalin, of Dr. Mohammed Mossadegh, of "westernization," plans for education, and the future of the oil industry in Iran.

SLOOP AND BLYTHE—Miracle in the Hills
The Lively, Personal Story of One Woman's Forty-year Crusade in the Mountains of North Carolina
By Dr. Mary T. Martin Sloop with Legette Blythe.
264 *pp.*, 5½ *x* 8 (1953).....$4.95*t*
The amazing and amusing story of Dr. Sloop's forty-year crusade to bring civilization to an entire hill region located in and around Crossnore, North Carolina. Dr. Sloop and her husband, also a doctor, rode horseback into the primitive Southern mountains in 1909. She tells her story in the rich, anecdotal vernacular of the mountains, spinning yarns of mountain characters, square dances and bear hunts. Her wry wit, steadfast faith, and love of the mountain people make her tale both entertaining and inspiring.

SNOW AND ASWELL—The Story of Carmel Snow
By Carmel Snow with Mary Louise Aswell.
224 *pp.*, 7⅛ *x* 9⅞, *illus.* (1962)....$6.95*td*
These glowing memoirs of the world-famous editor of *Harper's Bazaar* are told in her own words, and in those of the famous, talented and dedicated people who knew her. At the time of her death in May, 1961, Carmel Snow had just completed taping her collection of a life filled with glamour, hard work, and tremendous achievement, not only in the arts and business but in international society as well. She tells of her early apprenticeship helping her mother, of her debut under Conde Nast as Miss White of *Vogue*, and finally as Carmel Snow of *Harper's Bazaar*. Her book tells the personal story of a great editor, and she relates her discoveries and gives her opinions of Chanel, Dior, Patou, Balenciaga, "Scap," Avedon, Cartier-Bresson, Suzy Parker, Anita Loos, Kit and Guthrie McClintock—the whole world of the twenties and thirties, memories of the harsh war years in France, and her views of the great renaissance of the fifties. Illustrated, and with an epilogue by Mary Louise Aswell.

STERN—Robert E. Lee
By Philip Van Doren Stern.
256 *pp.*, 8½ *x* 11, *illus.* (1963).....$9.95*td*
Robert E. Lee's greatness is measured in much more than the terms of his military genius, and in this beautifully illustrated pictorial biography, Philip Van Doren Stern creates a warm and vivid portrait of Lee as a man and Lee as a general. Mr. Stern brings together more than 350 black-and-white pictures which illustrate the various phases of Lee's life, not only the military aspects, but the other, more personal areas. The reader sees him as a youngster, a member of the impoverished gentility growing up in Virginia. Then there is the Lee who entered West Point at 17, and became a practically perfect cadet. There is the family man, the father, the army engineer, the dedicated officer torn between his country and

his beloved state of Virginia. This is the story of a Lee almost obscured by his own fame, a fresh, full and deeply sympathetic picture.

SYMONDS—John Robert Gregg
By F. Addington Symonds.
72 *pp.*, 5½ *x* 8½ (1963).....$3.00*bc*
A fascinating story presenting the story of Gregg's career by telling of his early years in Ireland, Scotland, and England; the nature of his extraordinary shorthand invention; his exceptional success in America; and the gratifying acclaim which was accorded him for a life of great attainments.

TAPER—Cellist in Exile
By Bernard Taper.
124 *pp.*, 6⅛ *x* 8⅛, *illus.* (1962)....$4.95*td*
"For me, as for thousands of others," wrote Thomas Mann in a 1954 tribute to Pablo Casals, "his existence is a source of joy." Casals was 77 at the time, and even now, at the age of 85, still plays the cello inimitably, a creative artist whose life has been a protest and whose influence at its peak today extends far beyond the cello. In this beautiful book, based on and expanded from a profile in *The New Yorker* magazine, Mr. Taper describes Casals, tells of his youth and early training, of the quarter of a century he has been in exile from his native Spain, and of his special techniques and accomplishments as a cellist. The personal recollections and details that result from interviews granted to Mr. Taper, capture one of the great musical geniuses of our time with skill and sensitivity. Illustrated with 35 moving photographs, *Cellist in Exile* is a lucid portrait created with affection and wonder.

TAYLOR—The Amazing Mr. Churchill
An Informal Study in Greatness
By Robert Lewis Taylor.
434 *pp.*, 5⅝ *x* 8⅜ (1962).....$6.50*tf*
In this reissue of the highly entertaining *Winston Churchill; An Informal Study in Greatness*, Mr. Taylor keeps Churchill off the conventional pedestal, and tells a most delightful and readable story of "everybody's favorite character." The book is filled with anecdotes that reveal the great man's exasperating, comic, and essentially human side, in a way that no other work has done. In the course of his long, persistent research, Mr. Taylor has amassed all the legends, stories, and tales of Churchill, putting them together with a raconteur's wit and delight, creating a book far beyond the categories and formulae usually expected in biography.

UPHAUS—Commitment
By Willard Uphaus.
256 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*t*
This is the life story of the man who three years ago refused to give a New Hampshire's Attorney General the names of the persons who had visited World Fellowship's rustic camp; whose appeal went to the Supreme Court, where it lost, 5–4; and whose position—simple Christian integrity—has been praised in many national magazines and newspapers. The book centers on the trial and imprisonment, covering the steps leading to it, the political and spiritual atmosphere in New Hampshire, the appeal battle, the support of friends, the year in jail, and release.

VANDIVER—Mighty Stonewall
By Frank E. Vandiver.
534 *pp.*, 6 *x* 9, *illus.* (1957).....$6.50*t*
In this magnificent biography, Frank Vandiver brings brilliantly to life one of the most remarkable men America has produced—Thomas Jonathan Jackson. As a military genius he has been compared to Napoleon; his deep religious faith has caused some to compare him with Cromwell. Because of shyness people thought him aloof; because of rigid habits of diet and posture he was branded eccentric; by virtue of his military exploits he became a legend in his lifetime, and died at thirty-nine from wounds received at the battle of Chancellorsville when the Confederate tide reached its crest. T. Harry Williams, author of *Lincoln and His Generals*, says, "The descriptions of the battles are clear, vivid and moving, among the best battle sketches we have of the Civil War. It is an outstanding piece of work . . . the definitive life of Jackson."

WHITE—Majesty and Mischief
A Mixed Tribute to F. D. R.
By William S. White.
221 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.50*t*
This extraordinary book about F. D. R. is as paradoxical, as controversial, as surprising, and as profound as the subject itself. William S. White, a long-time Washington correspondent and a man who knew Rooesvelt and all the other famous figures that populate these pages, begins the story with Roosevelt's death on April 12, 1945. It was a day, White says, that changed the world more than we knew, a day that marked the end of an old era and the beginning of a new. Using Roosevelt's death as a pivotal point for an exciting analysis, White tells what sort of man he was, what he really accomplished, the lasting effects of his Presidency, his grievous faults, his great abilities, his tremendous courage, his lack of foresight, his successes, and his failures. It is a book that will be discussed and read avidly for many years to come.

WILHELMINA—Lonely but Not Alone
By Wilhelmina, Princess of the Netherlands.
288 *pp.*, 5⅝ *x* 8⅜ (1960).....$5.95*td*
Queen of the Netherlands from 1898 to 1948, Princess Wilhelmina, as she now wishes to be called, tells her own story in one of the most moving personal documents ever written by royalty. The book is an account of her unfolding faith in God, from student days through two wars, invasion, and exile. The memoirs include stories of her youth and the early days of the twentieth century, of her meeting with Queen Victoria, family life in the palace, and recollections of the tragic years of exile during World War II. With great eloquence, she gives the reasons for turning over the reins of government to her daughter, Juliana. The book is a triumphant declaration of faith.

WILSON—Dr. Ida
The Story of Dr. Ida Scudder of Vellore
By Dorothy Clarke Wilson.
320 *pp.*, 5⅝ *x* 8⅜, 12 *pp. of illus.* (1959) $5.95*t*
Dr. Ida Scudder, now ninety, the "Great Soul" venerated and revered by women in India, came from a family of medical missionaries dating back many generations. Her in-

spiring story, from a carefree, spirited girlhood in the 1890's through more than fifty years of medical missionary service in India to the ultimate triumphant development of her hospital, medical school and nursing school in Vellore, is told in this remarkable and moving biography.

WILSON—Take My Hands
The Remarkable Story of Dr. Mary Verghese
By DOROTHY CLARKE WILSON.
224 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*td*
Mary Verghese, daughter of an Indian plantation owner, decided to serve her newly independent country, instead of seeking marriage at an early age in the Indian tradition. After graduating from Dr. Ida Scudder's Christian Medical College at Vellore, Mary became a paraplegic. How eventually she was able to go on with her work, operating on patients from her wheelchair, and inspiring other handicapped people with hope and determination, underlies this dramatic and touching story of a triumphant physical and spiritual development.

YOUNG AND QUINN—Foundation for Living
By CHARLES H. YOUNG and WILLIAM A. QUINN.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.00
This book is more than the story of a distinguished leader on the American scene; it is also the biography of a city, and the more than fifty-year history of a community as it was affected by a single selfless, dedicated man. C. S. Mott went to Flint, Michigan, in 1905, where he was first a supplier of parts to the automobile industry; at the end of a long and distinguisheed career, he was a top executive at General Motors, and had literally devoted his life to Flint, as mayor and as founder of the Mott Foundation, of which the famed Youth Bureau is only one of many activities.

Books for Young People

ALAIN—The Elephant and the Flea
By ALAIN. With color illustrations by the author.
32 *pp.*, 8 *x* 10 *ages 4–8* (1956).....$3.00*j*
Library Ed. $2.96 *net*
A funny book about a very big elephant who thinks of many ingenious ways to get rid of a flea. However, ingenuity is not a matter of size and he is outwitted in a most amusing way. Hilarious pictures show the elephant bathing, spraying, rolling over in a stream to annihilate the flea, but the flea has simply hopped out of danger and appears laughing heartily on the final page.

ALBERTS—A Gift for Genghis Khan
By FRANCES JACOBS ALBERTS. Illustrated by RAFAELLO BUSONI.
112 *pp.*, 5⅜ *x* 8, *ages 7–11* (1961)..$2.75*j*
It was to the great Genghis Khan that the boy Mujil owed his life and his home at the Post Horse House. Now the Emperor was bringing his horde to the Post station, but the lonely boy had no gift for the Kha-Khan, nothing except the frail, baby camel that was his only possession. Mujil's stirring story, beautifully written by Frances Jacobs Alberts and skilfully illustrated by Rafaello Busoni, reaches its surprising climax in a dramatic meeting between the boy and the colorful Khan.

ANTONACCI AND BARR—Baseball for Young Champions
By ROBERT ANTONACCI and JENE BARR. Illustrated by RUS ANDERSON.
144 *pp.*, 6⅛ *x* 8⅛, *ages 8–12* (1956)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
A real handbook for the young baseball players, Little Leagues, training rules, the tools of the ball player, tips on how to pitch, to catch, to hit, to play infield and outfield, something of the history of baseball, scores and records, and a discussion of teamwork. Emphasis is on the idea that while it's fun to win, the best part is to have the fun of playing. Foreword by Yogi Berra.

ANTONACCI AND BARR—Basketball for Young Champions
By ROBERT J. ANTONACCI and JENE BARR. Illustrated by RICHARD LEACH.
160 *pp.*, 6⅛ *x* 8⅛, *ages 8–12* (1960)..$2.95*j*
Library Ed. $2.96 *net*
The long-awaited third volume in the "Young Champions" series is a complete handbook for the young basketball player. For those who do not play the game, it describes the sport in a way in which one can fully appreciate the game while watching it. Starting with the early history of basketball, when old peach baskets were used, the authors develop the story of basketball and discuss the rules of the game. Ideas on training, basketball equipment, passing, scorekeeping, shooting, dribbling are just some of the topics covered in addition to the variations in rules for the girls' game and Biddy Basketball.

ANTONACCI AND BARR—Football for Young Champions
By ROBERT ANTONACCI and JENE BARR. Illustrated by RUS ANDERSON.
160 *pp.*, 6⅛ *x* 8⅛, *ages 8–12* (1958).$2.95*j*
Library Ed. $2.96 *net*
As a companion to *Baseball for Young Champions*, the authors of the earlier book now present a real handbook for the football player. They provide the rules of the game, tips on training, equipment, kicking, passing, catching, on playing the different positions, a brief history of football, scores, records, discussion of teamwork, and valuable drills. Profusely illustrated with line drawings by Rus Anderson.

ANTONACCI AND BARR—Physical Fitness for Young Champions
By ROBERT ANTONACCI and JENE BARR. Illustrated by CHARLES GEER.
160 *pp.*, 6⅛ *x* 8⅛ *ages 10–14* (1962) $2.95*j*
Library Ed. $2.96 *net*
In this fourth volume in the popular "Young Champion" series, the authors trace the history of man's approaches to fitness through the ages, but they concentrate much of their dis

cussion on talking to boys and girls of today. Do you know what your physical fitness I.Q. is?, how you can keep physically fit at home?, through sports? And do you know about muscles, toning, power, speed, beauty and poise as they relate to physical fitness?

ARUNDEL—Dugan and the Hobo
By JOCELYN ARUNDEL. Illustrated by WESLEY DENNIS.
128 *pp.*, 6 *x* 9, *ages 8–12* (1960)
Regular Edition $2.95*j*
Library Edition $2.96 *net*

This is the story of a friendship and an adventure shared by a hobo and a horse and a boy. It is an unusual adventure, but then Clover was no ordinary hobo. A runaway horse, a dramatic horse race and an unusual ending for all concerned add to the excitement of this new story by a favorite author-artist team. Jocelyn Arundel, whose *Simba of the White Mane* won a Boy's Clubs of America medal for 1959, gives us an unusual horse story filled with dramatic scenes and action pictures by Wesley Dennis whose horses are so well known and loved.

ARUNDEL—Jingo, Wild Horse of Abaco
By JOCELYN ARUNDEL. Illustrated by WESLEY DENNIS.
128 *pp.*, 6 *x* 9, *ages 8–12* (1959) $2.95*j*

When Jenny Curry and her family moved from New England to the Bahamas, she could hardly wait to explore Abaco Island. And there Jenny, who loved to ride, by chance spied a little chestnut mare and was determined to make it her own. A sea chase and a flight across a "haunted island" are only part of the excitement Jenny encounters when she discovers she is not the only one with plans for the beautiful horse. By the author-artist team of *Simba of the White Mane*.

ARUNDEL—Mighty Mo
The Story of an African Elephant
By JOCELYN ARUNDEL. Illustrated by WESLEY DENNIS.
128 *pp.*, 6 *x* 9 (1961) Regular Edition $2.95*jd*
Library Edition $2.96 *net*

In this new book, the popular author-artist team returns to the African scene of their earlier successful book, SIMBA OF THE WHITE MANE. Now against the vast plains and thick bush, they give their readers the powerful story of a young boy's love for the free, wild animals, a young girl's fear of them, and of a great elephant who roamed this country.

ARUNDEL—Simba of the White Mane
By JOCELYN ARUNDEL. Illustrated by WESLEY DENNIS.
128 *pp.*, 6 *x* 9, *ages 8–12* (1958)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

Illustrated by Wesley Dennis, including full-color frontispiece. A thoroughly appealing and exciting story of the great plains of Africa and of Toki, a small African boy who is lost from a safari and who actually comes upon the great Simba, almost legendary lion of the white mane. As Toki's touching account unfolds, and he learns of the world in which he will spend his life as a game scout and preserver, the young reader will be completely captivated by the story, and the wonderful sights and sounds of the big game country. This book has been prepared by an author and artist who accompanied a recent safari in Africa.

ARUNDEL—Whitecap's Song
By JOCELYN ARUNDEL. Illustrated by WESLEY DENNIS.
128 *pp.*, 6 *x* 9, *ages 8–12* (1962)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

Jocelyn Arundel and Wesley Dennis return to the beautiful Bahama Islands for this absorbing story of a half-wild grey mare named Whitecap, and Alonzo Albury who was born with the gift of making music. An island storm and a horse and man overboard, bring added excitement to this story that throbs with the tapping beat of island music and comes to a startling climax with Alonzo's surprising solution to a very important problem.

BAKER—Lions in the Woodshed
By MARGARET J. BAKER. Illustrated by MARCIA LANE-FOSTER.
96 *pp.*, 6⅛ *x* 8½, *ages 8–12* (1955) . . $2.75*j*

The adventure all began the day Tessa came upon the strange catlike ornament in the rummage sale and named it Mapledurham. From then on, nothing was surprising, for Mapledurham was magic and five happy children found themselves with three big wishes. It was all fun, but the perfect wish was the last unspoken one, which brought very unusual, exciting visitors to the backyard.

BARNES—The War Between the States
By ERIC WOLLENCOTT BARNES. Illustrated by W. N. WILSON.
144 *pp.*, 6⅝ *x* 9¾, *teen ages* (1959)
Regular Edition $3.50*j*
Library Edition $3.06 *net*

Here Dr. Barnes, author and teacher, gives us a concise story of the battles of the War between the States in vivid yet simple style. The book opens with a dramatic chapter on the events that preceded the war. Then come the great men and the great moments—the crucial land and naval battles, the troop movements, and the effects of the conflict. The narrative is presented in personal, human terms to give the reader the feeling of actual experience and organized chronologically, following the war from east to west and back to the east. The many helpful maps and drawings are by W. N. Wilson, who illustrated *Trails West* and *Hokahey!*

BARNES—Free Men Must Stand
The American War of Independence
By ERIC W. BARNES. Illustrated by W. N. WILSON.
160 *pp.*, 6⅝ *x* 9¾, *teen ages* (1962)
Regular Edition $3.95*j*
Library Edition $3.31 *net*

Here is a dramatic story of the Revolutionary War in a companion volume to match the author's very successful THE WAR BETWEEN THE STATES. The book opens with a lively description of the events in England and in America that fired tempers on both sides of the Atlantic and finally led to action. Included are major campaigns, leading generals, the development of the political situation, the crucial stakes, the outcomes and their effect.

BARR—Research Ideas for Young Scientists
By GEORGE BARR. Illustrated by JOHN TEPPICH.
140 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1958)
Regular Edition $3.00*jdL*
Library Edition $2.96 *net*

Here is a completely stimulating and different kind of book of experiments. Such diverse problems as how many miles can be covered on a gallon of gas—how fast do you walk—how much water is in an apple—how far can ground carry sound—will start the young reader along the road to investigation into many areas of science that tie in with courses of study in electricity, sound, transportation, weather, safety and others. Generously illustrated throughout with helpful line drawings and lists of books for further research in various areas.

BARR—More Research Ideas for Young Scientists
By GEORGE BARR. Illustrated by MILDRED WALTRIP.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1961)
Regular Edition $3.00*jd*
Library Edition $2.96 *net*

More challenging research ideas for the young scientist are presented by the well-known science author of RESEARCH IDEAS FOR YOUNG SCIENTISTS, etc., in this stimulating new book. This is a "doing" book of open-end experiments rather than a "reading" book. There are over 80 projects in the fields of chemistry, astronomy, sound and light, magnetism and electricity, weather and water. Many scientifically accurate line drawings by Mildred Waltrip complement the text.

BARR—Young Scientist Looks at Skyscrapers
The How and Why of Construction for Sidewalk Superintendents
By GEORGE BARR. Illustrated by MILDRED WALTRIP.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1963)
$3.00*jd*
Library Ed. $2.96 *net*

In this fifth "Young Scientist" book, the author gives us the answers to many complicated questions about the construction which makes a skyscraper; how the foundation under a tall building supports many hundreds of millions of pounds; why so many American Indians work as steel erectors; and what "curtain walls" are.

BARR—Young Scientist and Sports
Featuring Baseball–Football–Basketball
By GEORGE BARR. Illustrated by MILDRED WALTRIP.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1962)
$3.00*jd*
Library Ed. $2.96 *net*

This book examines the scientific principles upon which skill in the field of sports depends. It demonstrates the laws of motion, inertia, gravity, momentum, action and reaction in operation on the baseball diamond, the football field, the basketball court, and provides provocative examples of science at work on the golf course, the skating rink, at a track meet, in a bowling alley, on a ski slope, in boating, and in a swimming pool. An exciting science guide which will give the reader great enjoyment in playing or watching sports. Mildred Waltrip's pictures and diagrams are attractive, accurate, and clear.

BARR—Young Scientist Takes a Ride
By GEORGE BARR. Illustrated by WILLIAM D. HAYES.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1960)
Regular Edition $3.00*j*
Library Edition $2.96 *net*

The prompt acceptance of George Barr's earlier books proves the need for this new kind of science experience book, which is filled with "open-end" experiments. Now the author takes his reader on a ride and guides him to the many observations, experiments, and even games that can be made in and around a car. What is the "reaction time" before a driver can safely stop, how does a gasoline pump work, what makes tires sing are just a few of the informative questions asked. Filled with informal experiments and clear and attractive illustrations by William D. Hayes.

BARR—Young Scientist Takes a Walk
Guide to Outdoor Observations
By GEORGE BARR. Illustrated by JEANNE BENDICK.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1959)
$3.00*j*
Library Ed. $2.96 *net*

This book, like *Research Ideas for Young Scientists*, is a new kind of science exploring book, which has won wide acclaim. Special "open-end" experiments lead the reader personally to discover important facts through a truly scientific approach. Science-minded boys and girls can use their own environment—city or country—to find answers to questions such as how fast does a stream move, what causes dew on grass, why does the wind whistle, and many others about sidewalks, streets, building materials, sounds, and odors. Jeanne Bendick's informative and attractive drawings further amplify the text. The author is a consultant in elementary science for the New York Board of Education.

BARRY—Mr. Willowby's Christmas Tree
By ROBERT BARRY. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1963) . . $2.50*jd*
Library Ed. $2.63 *net*

Small boys and girls will chuckle over this original story, written in verse, of how Barnaby Bear, Frisky Fox and the other forest animals come to share Mr. Willowby's Christmas.

BEERY—Young Teens Plan Dates and Proms
By MARY BEERY. Illustrated by CHARLES GEER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1962)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

So many questions come up among young teens when they first begin to date and dance. Then, too, there are the high school proms. Do the rules of adults apply now? Young teens want to be in step with their contemporaries. There are over 150 questions—ranging from boy ask girl to the final goodnight—all fully explored by the author and by young teenagers in this companion volume to YOUNG TEENS TALK IT OVER. Always fun to read, a considerable portion of this book can be applied to everyday living.

BEERY—Young Teens Talk It Over
By MARY BEERY. Illustrated by CHARLES GEER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1957)
Regular Edition $2.95*j*
Library Edition $2.96 *net*

A question and answer guide book for the young teens with a unique, double-barrelled approach—suggestions and remarks from junior high age boys and girls themselves plus advice and comments from an author well-acquainted with their problems. The range of subjects covered extends from home, family, school, and friends to boy-girl relationships, parties, dances and dates. Gay line drawings by Charles Geer.

BENDICK—All Around You
By JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 10, *ages 5–9* (1951)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
A science picture book that describes with the most simple words and wonderful pictures the why and how of the world about us. With a foreword by Glenn O. Blough, Professor of Education, University of Maryland.

BENDICK—Electronics for Young People
By JEANNE BENDICK. Illustrated by the author. New Fourth Edition.
192 *pp.*, 5⅜ *x* 8 (1960)
Regular Edition $3.50*jdL*
Library Edition $3.06 *net*
Although the field of electronics is a relatively new one, its growth has far exceeded the short span of its existence. New vocabulary, machines and concepts have developed so rapidly and with such variety that keeping up is a daily challenge. In this New Fourth Edition of *Electronics for Young People*, Jeanne Bendick has given a clear and up-to-date accounting of the latest techniques and equipment while retaining the fundamental introductory material that has made the earlier editions the leaders in the field.
CONTENTS—What Is an Electron? Starting Electrons to Work. Electron Tubes. The Beginnings of Electronics—2,600 Years of Electricity. Electricity into Electronics—50 Years. Waves. What Electron Tubes Do. Electronics All Around You. Electronics in Industry (Helper with a Thousand Hands). Computers (Thinkers for Industry, Science and Defense). Electronic Policemen. Electronics Guards Your Health. Electronics Lends a Hand to Science. Electronics Entertains You—Radio and the Movies. Electronics Entertains You—Television. Electrons for Defense and Peace. Atomic Energy. Something New Every Minute. Electronic Terms (and Some Atomic Ones). Index.

BENDICK—Have a Happy Measle
By JEANNE BENDICK. Illustrated by the author.
48 *pp.*, 7⅛ *x* 9⅞ (1958).....$2.75*j*
A very amusing, very colorful picturebook about measles, mumps, chickenpox, and other common illnesses—How You'll Look, How You'll Feel, What You Shouldn't Do, What You Can Do. Many clever nonsense poems about colds, poison oak and ivy, sore throats, sunburn, broken bones, etc., and such cheerful stories as that of the knight who couldn't get his helmet off when he had mumps, of how Christmas Santa Claus got the measles, of the mermaid who caught cold when she let herself get dry. Plus sound rules for staying healthy and a score card with each book on which to keep a health record.

BENDICK—How Much and How Many
The Story of Weights and Measures
By JEANNE BENDICK.
182 *pp.*, 5½ *x* 8 (1947)
Regular Edition $2.95*jL*
Library Edition $2.96 *net*
Here are all the facts on weights and measures—not only what they are but also how and why they got that way. Familiar everyday weights and measures are included along with many others used by sciences and trades that should be well known to everyone. A fascinating book for young people as well as adults and a valuable reference book for every library.
CONTENTS—Trade: Shipping and Commerce: Avoirdupois Weight. Money. Jewels and Precious Metals: Troy Weight. Apothecary Weight and Liquid Measures. The Things We Wear. Building. Printing. Science: Electricity, Light and Heat, Radio, and Mechanics. Time. Navigation. Weather. Surveying. Cooking. Medicine. Photography. Guns and Ballistics. The Metric System. The National Bureau of Standards. Tables of Weights and Measures.

BENDICK AND LEVIN—Pushups and Pinups
By JEANNE BENDICK and MARCIA LEVIN. Illustrated by JEANNE BENDICK.
144 *pp.*, 5⅜ *x* 8, *10 and up* (1963).$2.75*jd*
Library Ed. $2.84 *net*
Nutrition and physical fitness are much discussed these days and the problem of overweight in boys and girls is being studied by pediatricians, home economics people, psychologists, and others. This book is a guide to good eating, resting and exercise habits especially tailored for young teens.

BENDICK AND LEVIN—Take a Number—New Ideas + Imagination = More Fun
By JEANNE BENDICK and MARCIA O. LEVIN. Illustrated by JEANNE BENDICK.
64 *pp.*, 6⅝ *x* 9¾, *ages 10 and up* (1961)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
This is a mind-stretching book, but it is also a book for fun. How numbers began, how people count and how computers count, tricks, new things to learn, and numbers that haven't yet been invented are explained by the authors while they demonstrate that there is much more to numbers than adding, subtracting, multiplying, and dividing. With Jeanne Bendick's engaging pictures to make everything more clear, TAKE A NUMBER is an intriguing book of facts, ideas, puzzles, challenges, and brain-stirrers.

BENDICK AND LEVIN—Take Shapes, Lines and Letters
New Horizons in Mathematics
By JEANNE BENDICK and MARCIA LEVIN. Illustrated by JEANNE BENDICK.
80 *pp.*, 6⅝ *x* 9¾, *ages 10 up* (1962) $2.75*jd*
Library Edition $2.84 *net*
Do you know what the "golden rectangle" is; how musical tones are related mathematically; and can you prove that a strip of paper has only one side? Here is more fun with mathematics by the authors of TAKE A NUMBER. Ranging from ancient Greek discoveries of the law of proportion to the contributions of modern mathematicians, the book introduces readers to lines, angles, and shapes; explains codes and graphs, and among other things shows how, by mathematics, a number system can be made without numbers.

BENDICK AND BENDICK—Television Works Like This
By JEANNE and ROBERT BENDICK. Third Revised Edition.
64 *pp.*, 6⅝ *x* 9⅜ (1954)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
Fascinating as fiction; pictorial as a newsreel, accurate as our science texts. A book only the

Bendicks could produce, for they combine full knowledge and long experience in television with the unique ability to illustrate factual material in simple drawings that are readily understandable.

CONTENTS—What Television Is. The Words in This Book (And Some Others Too). On the Studio Floor. Sets and Props. The Lights. The Microphone. How the Picture Begins. The Cameras. The Control Room: Controlling the Pictures, Controlling the Sound. The Director and the Associates. Rehearsals. Studio Shows. Special Effects. Film. Recording. The Telecine Room. Master Control. News. Sports. Remote Operations. Television on Wheels. Special Events. Pool Broadcasts. The Transmitter. Coaxial Cables. Stratovision. Relay Stations. Television Networks. Sponsors and Commercials. Antennas. Your Set.

BENDICK—What Could You See?
Adventures in Looking
By JEANNE BENDICK. With color illustrations by the author.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1957) . . . $2.50*j*
Library Edition $2.63 *net*

A simple but poetic science book that shows the wonderful things a boy or girl would see if he or she were a wilderness scout, a pilot in space, a captain of a full-rigged ship, an inhabitant of a desert island, etc., and then demonstrates dramatically that these same wonderful things can be seen in the woods or park, in the backyard, on the pond, at the beach, etc. A fascinating springboard to information on plants, animals, rocks, rivers, hills, sky and weather signs. By the author-artist of *All Around You, How Much and How Many*, etc.

BERGER AND CLARK—Science and Music
From Tom-Tom to Hi-Fi
By MELVIN BERGER and FRANK CLARK. Illustrated by GUSTAV SCHROTTER.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1961) . . $3.75*jd*

Just how dynamic a part science plays in the art of music is the subject of this amazing book. The authors take a new look at music; not from the viewpoint of the composer or the performer, but with the eyes of the scientist. For music is science, as well as art—the science of sound. Beginning with a clear explanation of sound waves, they go on to discuss pitch, amplitude, timbre, and resonance. Chapters on strings, voice, woodwinds, brass, percussion, and piano. Included also are fascinating chapters on the working of microphones, phonographs, recording techniques, and hi-fi.

BERGERE—Paris in the Rain with Jean and Jacqueline
By THEA BERGERE. Illustrated by RICHARD BERGERE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1963) . . $2.50*jd*
Library Ed. $2.63 *net*

Jean and Jacqueline love Paris in the rain. They like the hard, heavy rain that soaks the city and sends the waters of the Seine lashing and splashing. They like to see the rain wash the statues, bridges, and churches, and sprinkle thirsty flowers in the market place. Thea Bergere's musical prose and Richard Bergere's beautiful pictures make Jean and Jacqueline's seasonal view of Paris a double joy.

BLACKWOOD—Push and Pull
The Story of Energy
By PAUL E. BLACKWOOD. Illustrated by WILLIAM D. HAYES.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1959) . . $3.00*jd*

The fascinating story of energy is told in terms young people can readily comprehend by a Science Specialist in the U.S. Office of Education. Dr. Blackwood shows how each *push* or *pull* motion made by man or machine signalizes the presence of energy. He demonstrates nature's energy cycle and explains solar energy, mechanical energy, electrical energy, radiant energy, chemical energy. And he predicts developments in the future. With pertinent experiments and helpful line drawings.

BLOUGH—After the Sun Goes Down
The Story of Animals at Night
By GLENN BLOUGH. Illustrated in three colors by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1956)
Regular Edition $3.25*jd*
Library Edition $3.01 *net*

A Blough-Bendick simple science story which will fascinate young readers—this time the story of the animals and insects (owls, beavers, katydids, tree toads, field mice, bats, etc.) which live their lives mostly in the darkness after the sun goes down. Explanations of the sounds and activities of the night in a world which children seldom see but always wonder about.

BLOUGH—Bird Watchers and Bird Feeders
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1963) . . $2.95*j*
Library Ed. $2.96 *net*

Any season is good for bird watching and bird feeding. For whether it is fall, winter, spring or summer, birds are hungry, and one of the best ways to watch them is to build a feeder where they can stop to eat. Bird menus, bird feeders, bird migrations, and bird banding are discussed as well as amazing discoveries that can be made about birds.

BLOUGH—Christmas Trees
And How They Grow
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1961)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

Who doesn't like a Christmas tree, whether it is in the living room, or in a classroom, whether it sits in your garden or whether it is the brilliantly decorated tree in our nation's capital. Where do Christmas trees come from? Which kind of tree is best suited to be a Christmas tree? What other uses might a Christmas tree serve? In this new science-nature story, Glenn Blough traces the growth of trees and he demonstrates their contribution to men, plants and animals, to conservation and ecology.

BLOUGH—Discovering Dinosaurs
By GLENN O. BLOUGH. Illustrated by GUSTAV SCHROTTER.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1960)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

Dr. Blough describes dinosaurs—Tryannosaurus, Allosaurus, Stegosaurus and many others—tells what they ate, how big they were, and how they lived. He explains how paleontologists use fossils to gather information about these ancient reptiles and, at the end of the book, gives a brief tour of the museums where many of these ancient giants now "live."

BLOUGH—Lookout for the Forests
A Conservation Story
By GLENN BLOUGH. Illustrated by JEANNE BENDICK.

48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1954)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

The story of Ted, who learns to *stop, look* and *listen* to the living things in the forest. This book on conservation for very young citizens will give them an appreciation of the beauty and usefulness of great forests and an understanding of the importance of taking care of them.

BLOUGH—Not Only for Ducks
The Story of Rain
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1954)
Regular Edition $2.95*j*
Library Edition $2.96 *net*

"Rain is only for ducks," said Mike McBlossom irritably. But that was before the dry season on the McBlossom farm. How important rain is in both the city and the country, and exactly how rain helps things grow make an exciting, informative nature book for beginning readers.

BLOUGH—Soon After September
The Story of Living Things in Winter
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1959)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

The seventh book in the popular Blough-Bendick science-nature group presents a colorful story in words and pictures of what happens to living things along the Road of the Seasons when autumn, and then winter, come along. Professor Blough tells about the animals and birds that migrate in the fall, those that hibernate, and those that live in the woods all winter long. He also shows the reader where seeds sleep in the earth and tiny buds cover the branches of trees and how to read tracks made in the snow. An exciting book, illustrated with Jeanne Bendick's special pictures, about the things that happen where winters are cold and summers warm.

BLOUGH—The Tree on the Road to Turntown
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 10, *ages 5–9* (1953)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
1 motion picture....*black and white* $60.00
color $120.00

The story of a boy named Skipp and his dog, Ripp, of squirrels and rabbits, moles and mice, skunks and skinks—but most of all the story of a tree, how it began, how it grew, and how important it was to many people. A book which is fun to read and at the same time teaches a great deal about seasons, animals, and the balance of nature.

BLOUGH—Wait for the Sunshine
The Story of Seasons and Growing Things
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1954)
Regular Edition $2.95*j*
Library Edition $2.96 *net*

The story of all the people in Sunfield, but particularly the story of Pete, who liked to see things happen and who watched to see how things grew. A lively book of simple scientific information on one of the most important processes in nature—the manufacture of food in tiny leaf factories.

BLOUGH—Who Lives in This House?
A Story of Animal Families
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1957)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

The old house on Highway 12 looks deserted but actually a number of busy animal families live there. Most people don't know about the things these familiar animals do because they don't take time to watch. But readers of this book will catch a fascinating glimpse of such wonderful activities as robin nest construction, life inside a honey bee community, a mud dauber wasp's nest building, etc. By Professor Blough, nationally known educator and science specialist, with colorful and informative pictures on every page.

BLOUGH—Who Lives in This Meadow?
A Story of Animal Life
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1961)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

An exciting new science-nature book by the author of SOON AFTER SEPTEMBER, NOT ONLY FOR DUCKS, WHO LIVES IN THIS HOUSE? This time Dr. Blough shows where all kinds of animals can be found in the meadow. Some animals dig in the ground. Some creep or crawl over it. Some animals live in the water, while others live on the water, and some fly through the air. To them all the meadow is home, and Dr. Blough demonstrates how and why they are so well suited to their meadow environment.

BLOUGH—Who Lives at the Seashore?
Animal Life Along the Shore
By GLENN O. BLOUGH. Illustrated by JEANNE BENDICK.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1962)
Regular Edition $2.95*j*
Library Edition $2.96 *net*

The strange and wonderful things that happen along the seashore where the land meets the sea—some can be seen, some can be heard, some can be felt and many more are to be discovered, as Glenn Blough demonstrates in this new science-nature book.

BLOUGH—Young People's Book of Science
Edited by GLENN O. BLOUGH.
448 *pp.*, 5⅝ *x* 8⅜ (1958).....$3.95*jdL*

Dr. Blough, well-known science specialist, has chosen from a number of this publisher's science books some significant sections and combined them meaningfully to give readers a dramatic picture of the challenging scientific world in which we live. A wonderful over-all picturebook of our scientific age introduced by an editor who understands young people's interests and enthusiasms in science and presenting the work of such important science writers as Margaret Hyde, Julius Schwartz, Herman Schneider, Lynn Poole, Madeleine Grant, William Crouse, John Perry and others. 464 pages of first rate science reading filled with accurate easy-to-understand pictures by Jeanne Bendick, Clifford Geary and others.

BLOUGH AND CAMPBELL—When You Go to the Zoo
By GLENN O. BLOUGH and MARJORIE H. CAMPBELL.
128 *pp.*, 6 *x* 9, *ages 8–12* (1955)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*
An exciting, easy-to-read scientific account of all the strange and wonderful animals boys and girls see when they go to the zoo, with lots of actual photographs from the major zoos of the United States. Information about how zoos are set up, how they get their animals, and how they feed and care for them, plus a special section (*Who's Who in the Zoo*) which gives the story of famous animals in our U.S. zoos.

BRILL—Madeleine Takes Command
By ETHEL C. BRILL. Illustrated by BRUCE ADAMS.
200 *pp.*, 5½ *x* 8 (1946).....$3.25*jd*
A junior novel covering the true and thrilling story of fourteen-year-old Madeleine de Vercheres, who with her two young brothers held the Canadian fort of Vercheres against an Iroquois attack in the year 1692.

BROOMFIELD—Dame Wiggins of Lee and Her Seven Wonderful Cats
Illustrated by ROBERT BROOMFIELD. Additional verses by JOHN RUSKIN, LL.D., Honorary Fellow of Corpus Christi College, Oxford.
32 *pp.*, 9⅝ *x* 7, *ages 5–9* (1963)...$2.75*jg*
Library Ed. $2.84 *net*
A Humorous Tale written principally by a Lady of Ninety. So read the title page of an early edition of this old favorite. In this new edition ROBERT BROOMFIELD retains the spirit of the early woodcut illustrations and he brings to the story additional gaiety and humor. Four Kate Greenaway illustrations are reproduced on the endpapers.

BURNS—Horses and Their Ancestors
By WILLIAM A. BURNS, American Museum of Natural History, illustrated by PAULA HUTCHINSON.
64 *pp.*, 7½ *x* 10, *ages 10 and up* (1954)
$3.00*j*
1 motion picture....*black and white* $55.00
color $100.00
Beginning with eohippus, the dawn-horse, no larger than a fox, this fascinating book follows the development of horses through the centuries right up to the present. Dr. Burns gives an exciting description of how differences in climate, food, and breeding have all been factors in the evolution of the modern horse, and tells of the many and changing uses of horses. A book packed with fascinating information and illustrated with beautiful, accurate pictures.

BURNS—Man and His Tools
By WILLIAM A. BURNS, American Museum of Natural History, illustrated by PAULA HUTCHINSON.
160 *pp.*, 6 *x* 9, *ages 10 and up* (1956)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
1 motion picture....*black and white* $55.00
color $100.00
The story of how man first discovered the basic tools from which all our present-day tools (including power tools) are developed —the knife, the hammer, the saw, the drill, etc., and how through the Stone Age, the Bronze Age and up to modern times he has refined and altered and further developed the tools to meet the changing needs of our civilization.

BURNS—A World Full of Homes
By WILLIAM A. BURNS, American Museum of Natural History, illustrated by PAULA HUTCHINSON.
120 *pp.*, 6 *x* 9, *ages 10 and up* (1953)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
1 motion picture....*black and white* $55.00
color $100.00
A fascinating account of the ways in which man through the ages has sheltered himself and his family from rain, snow, heat, and cold, and a description of the homes that he has built from the basic materials of grass, rock, wood, brick, adobe, etc., both in primitive times and modern times. With a special section on the unusual homes of the world.

CALLAHAN—Where the Trail Divides
By LORNA CALLAHAN. Illustrated by PAUL GALDONE.
192 *pp.*, 5⅜ *x* 8, *ages 12–16* (1957)..$3.00*jd*
The story of fifteen-year-old Fernande and her scholarly French immigrant father who join a wagon train following the long trail from Missouri to the Great Territory of Oregon. To many of the people in the train, Fernande and her father are "foreigners"—the jinx which brings on the epidemic in which a baby dies, which causes Mr. McCoon's accident, and the other agonizing troubles. The steadfastness of the Watteaus' few friends and Mr. Watteau's charitableness and heroism in the end win understanding for him and his daughter.

CALVERT—A Promise to Our Country
I Pledge Allegiance
By CAPTAIN JAMES CALVERT, USN. Illustrated by JAMES DOUGHERTY.
32 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1961)
Regular Edition $2.00*jd*
Library Edition $2.28 *net*
Every day, in schools throughout the United States, children recite the "Pledge of Allegiance to the Flag." Most of these children are simply repeating words without understanding the real meaning behind them. The author has explained, in words that young children can readily grasp, the significance of each part of the pledge. What is meant by "pledge?," by "allegiance?," what is "The United States of America?," what is a "republic?," what does "indivisible" mean?," what is the true meaning of "liberty and justice"? We learn too, just why our flag is red, white, and blue.

CANNAM—Black Fury
By PEGGIE CANNAM. Illustrated by WESLEY DENNIS.
192 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1956)
$3.50*j*
Nick's belief in the beautiful wild black thoroughbred and his patient overtures to the animal finally established an island of happiness for them both. This is the story of the persistent love of a lonely, understanding boy and a mistreated horse—a love which produces an island of happiness for both. A mature, sympathetic, original story with a theme that is a perennial favorite of all ages.

CARRYL—A Capital Ship or the Walloping Window-Blind
By CHARLES E. CARRYL. Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 5–9* (1963) ..$2.75*jd*
Library Ed. $2.84 *net*
"O blow, ye winds, high ho! A roving we will go," and what fun, what cheer, what tongue-teasing joy there are for all who voyage on our capital ship—The Walloping Window-Blind! Paul Galdone presents his merriest picture book, and—those who enjoy singing will find the muscial score reproduced on the endpapers.

COGGINS—Busby & Co.
By HERBERT COGGINS. Illustrated by ROGER DUVOISIN.
96 *pp.*, 5⅝ *x* 8⅜, *ages 7–11* (1952)
Library Edition $2.84 *net*
The hilarious tale of a boy named Jerry and a beaver named Busby, who solved a problem by going into business together—and a most unusual business at that! Full of gay, appealing pictures by Roger Duvoisin and set in large readable type.

COLES AND FROST—Star of Wonder
By ROBERT R. COLES, Hayden Planetarium, and FRANCES FROST. Illustrated by PAUL GALDONE.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1953).$2.95*jd*
David and Jean of *Rocket Away!* are back in another planetarium adventure. This time they go back through the centuries to the time of the first Christmas to explore the unsolved question of what the wonderful star might have been.

COOPER—Mr. Teach Goes to War
By FRANK COOPER.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1957)....$3.25*j*
A highly exciting story of a young school master and his efforts to help one of his pupils—a silent, mysterious Indian boy called Muskrat Jack. The time is a summer during the War of 1812, and the place is Lake Champlain and the North Country. Lots of dramatic detail about the preparations of the British and Americans, the fitting out of the flagship Saratoga and the Battle of Plattsburg. A wonderful picture of the complex, teeming life of the Border with plenty of action, and the satisfying development of understanding between Jack and his "Mister Teach."

CROUSE—Science Marvels of Tomorrow
By WILLIAM H. CROUSE. Illustrated by DABNEY MAHANES.
192 *pp.*, 5⅜ *x* 8, *young adult* (1963).$3.50*jd*
The author explores the future of the laser, micro-miniature electronic devices, hovercraft, nuclear fusion, Mach 3 aircraft, space stations and spaceships, the farming of oceans, and the possibility of living in a city of watertight buildings in the depths of the ocean.

CROUSE—Understanding Science, 3rd Ed.
By WILLIAM H. CROUSE. Illustrated by JEANNE BENDICK and DABNEY MAHANES.
224 *pp.*, 6 *x* 9 (1963).....$3.95*jd*
An expanded version of this important book has been revised to include the latest information on the telephone, the radio, television, motion pictures, airplanes, engines, rockets, atomic-energy reactors, man-made elements, artificial satellites, and space travel, as well as a new chapter on computers.

CROWELL—What Can a Horse Do That You Can't Do?
By PERS CROWELL. Illustrated by the author.
32 *pp.*, 8 *x* 10, *ages 4–8* (1954).....$2.50*jd*
A picture book which demonstrates the hilarious things which would happen if a boy or girl tried to do what a horse does, or if a horse tried to do what a boy or girl can do. Pers Crowell has combined his inimitable drawings of horses with a rollicking, laughing text and has produced a book which will be fun for all the family.

CUMMINGS—The Girl in the White Hat
By W. T. CUMMINGS. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1959)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
Correlated Textfilm Series—1 motion picture (color).....$100.00
This is the story of the surprising things that happened once upon a time, in a tall dark house, in a big city, to a little girl whose name was Annabelle. Annabelle was all by herself in the attic when she discovered the white hat in the bottom of a box that was high on the top of the very top shelf. Of course she had to try on the hat right away. But what happened afterward is Annabelle's wonderful secret, one that will delight young readers and everyone else who believes that wishes can come true.

CUMMINGS—The Kid
By W. T. CUMMINGS. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1960)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
Correlated Textfilm Series—1 motion picture (color).....$100.00
There once was a boy. He lived far out in the country in a little house that was surrounded by vines and bushes and tall scraggly weeds. But one day after a long, lonely winter, Kid took his banjo and left his home. This is the story of Kid's journey that brought him first to a racoon, then a fawn, and finally the wonderful golden horse, Sun Horse. When Kid mounts Sun Horse and rides with him, it is a happy event for both—and in it lies the solution for the boy and his loneliness.

CUMMINGS—Miss Esta Maude's Secret
By W. T. CUMMINGS.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1961)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
Correlated Textfilm Series—1 motion picture (color).....$100.00
Who is Esta Maude? She is a schoolteacher. She lives in a tall thin house on the edge of town, and drives a little old black car. The whole town knows that—the boys and girls and grown-ups too. They think Esta Maude's life is dull. Just imagine their surprise if they were to find out that Esta Maude owns a red racing car! Esta Maude's secret adventures will delight the many fans of THE KID and THE GIRL IN THE WHITE HAT, as well as everyone else who likes secrets and driving cars.

CUMMINGS—Wickford of Beacon Hill
By W. T. CUMMINGS. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1962)..$2.50*j*
Library Ed. $2.63 *net*

Wickford can turn somersaults in the air. He can hang upside down from the top of his cage, and he can open any door in the house with his strong beak. He is a white cockatoo, and he lives with Peter, whose father drives a sight-seeing bus in Boston. More than anything else, Wickford likes to talk, and that's the trouble. Peter's father thinks he talks too much. But the day comes when Peter's father loses his voice and is unable to take a group of children on a tour. Guess who saves the day? "Bill" Cummings' "just right art" will make Boston and its history come alive in a special way.

DALE—Benjamin—and Sylvester Also
By RUTH BLUESTONE DALE. Illustrated by J. B. HANDELSMAN.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1960)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
Benjamin and Sylvester (basset hounds) lived in the city. They loved to be taken for walks along the hard paved streets by Don and Mike and Nora. But people always said, "Hmmm, these hounds belong in the country." Some dogs DO belong in the city, some in the country. What happens when Benjamin, and Sylvester also, are exposed to beagling and training school makes a story that will delight young and old. With *Benjamin—and Sylvester also* Whittlesey House presents a new author-artist team, and a picture book of special charm and humor.

DAMJAN—The Clown Said No
By MISCHA DAMJAN. Illustrated by GIAN CASTY.
32 *pp.*, 7 15/16 *x* 11⅜, *ages 4–8* (1963) $2.95*jg*
Library Ed. $2.96 *net*
This charming story of Petronius and the animal friends who band together to find a way of being true to their natures has already delighted small children in Europe. Now American boys and girls will share their fun.

DAVIS AND ASHABRANNER—Chief Joseph
War Chief of the Nez Percé
By RUSSELL DAVIS and BRENT ASHABRANNER.
192 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1962)
Regular Edition $3.25*jd*
Library Edition $3.01 *net*
This is the true and stirring story of Joseph of the Nez Percé, a man who wanted peace but who became instead perhaps the greatest fighting chief that the Western Indian wars produced. It gives an unforgettable picture of the fierce battles and gallant retreat which took this group of the Nez Percé almost to the Canadian border, where Joseph, whose call for help from Sitting Bull was unanswered, was forced to say, "From where the sun stands, I will fight no more." The authors of THE CHOCTAW CODE give us another memorable story of courage and decency.

DAVIS AND ASHABRANNER—The Choctaw Code
By RUSSELL DAVIS and BRENT ASHABRANNER.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1961)
$3.00*j*
"I, Jim Moshulatubbee, already am dead. I'm a Choctaw. To run would be against every tradition I have learned." As Tom Baxter followed his Indian friend through the forest, learning to track and hunt, the teenager knew Jim was under sentence of death. Tom was determined to save his life; but Jim was just as determined to accept the Choctaw code. The story of Tom Baxter's growth in understanding, his realization of maturity make a robust, distinguished book.

DAVIS AND ASHABRANNER—Strangers in Africa
By RUSSELL DAVIS and BREANT ASHABRANNER.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1963) . . $3.00*jd*
This is a stimulating novel of two young Americans in Africa today, one white, the other Negro, who come to Nigeria to work in a tsetse fly eradication program. In Nigeria, both young men find that the gulf between Nigeria and America is a wide one. The panorama of a new nation springs vividly to life in this haunting novel by two men who have lived and worked in Africa.

DIMAGGIO—Baseball for Everyone
By JOE DIMAGGIO.
232 *pp.*, 5½ *x* 8, *teen ages* (1948) $4.95*j*
Here is Joe DiMaggio's inside story of baseball, an instructive and entertaining survey of the game for the fan and the player alike.

DORIAN—No Moon on Graveyard Head
By EDITH DORIAN.
190 *pp.*, 5½ *x* 8, *ages 12–16* (1953) $3.25*jd*
A lively portion of intrigue, mystery, and tense excitement is mixed with a story of young love in a Maine seacoast town. Steve and Linda, meeting for the first time, find themselves an unwitting part of many strange events on Graveyard Head.

DORIAN—Trails West
And Men Who Made Them
By EDITH DORIAN. Illustrated by W. N. WILSON.
92 *pp.*, 6⅝ *x* 9¾. *Ages 10 and up* (1955)
Regular Edition $3.00*jd*
Library Edition $2.96 *net*
Here is a valuable, easy-reading book which gives an account of the roads and trails by which we moved West as a nation, from the Spaniards who followed buffalo tracks and Indian trails and the French who followed rivers, to the mountain men and the Conestoga wagons. A brief account told with great drama and filled with magic names of places and people—Wilderness Road, Santa Fe Trail, Natchez Trace, Oregon Trail, Overland Trail; Father Kino, Daniel Boone, Tom Fitzpatrick, Kit Carson, the Sublette brothers, and many many others.

DORIAN AND WILSON—Hokahey! American Indians Then and Now
By EDITH DORIAN and W. N. WILSON. Illustrated by W. N. WILSON.
96 *pp.*, 6⅝ *x* 9¾, *ages 10 and up* (1957)
Regular Edition $3.50*j*
Library Edition $3.06 *net*
This is a complete book on American Indians with information on their probable origin, the number of tribes, the various languages, and the history of the Indian's adaptation to his environment. There is a section on each of the seven culture areas: Eastern woodlands, Southeastern woodlands, Southwestern, Plains, Plateau, California, and Northwest Coast. And each of these sections gives an account of the typical culture of the area—hunting, housing, arts, crafts, implements, tribal societies, and something about the great Indian leaders. By the author-artist team of *Trails West and Men Who Made Them.*

DUNCAN—Down the Mast Road
By JOHN M. DUNCAN.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1956).... $3.25*j*
A well-written, absorbing story of a little-known facet of our American history—the adventures of a boy who "goes masting," and grows up in the trials of the long haul from the forest to the sea. A wonderful cross-section of New Hampshire in 1775, the story of a hard-won friendship between the boys, a happy relationship between a boy and a girl, and a satisfying ending when the mast pine goes not to a privateer Indiaman, but to the Navy of our new country.

DUNCAN—Twelve Days 'til Trenton
By JOHN M. DUNCAN.
155 *pp.*, 5⅜ *x* 8 (1958)..... $3.00*jd*
A well-written, exciting story of Matt Doliber, a young Marbleheader of the 14th Massachusetts regiment, and the part he plays in the days leading up to Washington's famous Crossing of the Delaware and the battle of Trenton. The Massachusetts boy has his problems of overcoming his fear of fighting, and temptations to desert, while his young Virginian friend, Brad, is as afraid of the water as Matt is of battle.

DURRELL—My Favorite Animal Stories
Selected by GERALD DURRELL.
In Press
Thirteen favorites of a man whose own adventures with animals have delighted readers and television viewers. Wide in range, the collection includes an octopus hunt, the tale of a python, a whale, a kitten—even two of James Thurber's incomparable dogs. Among other authors included are Damon Runyon, Herman Melville, Rudyard Kipling, T. H. White, Henry Williamson and Sir Arthur Grimble.

DUVOISIN—The Miller, His Son, and Their Donkey
An Aesop Fable
Designed and illustrated in three colors by ROGER DUVOISIN.
32 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1962)
Regular Edition $2.50*jd**
Library Edition $2.63 *net*
Roger Duvoisin felt that the times call for a reminder of the wisdom contained in this classic fable of the good-natured miller, who by trying to please everybody, pleased nobody, and almost lost his donkey in the bargain. His illustrations—authentic seventeenth-century scenes in bright exciting colors—form a vivid background for this book based on the James version, with a fillip from La Fontaine.
** Also available in French, Spanish, and Latin editions, Ea., $2.95jd.*

FATIO—A Doll for Marie
By LOUISE FATIO. Illustrated by ROGER DUVOISIN.
24 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1957)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Here is a most unusual picture story—actually two books, a book for a little girl and a book for her doll. Both have the same bright, colorful illustrations and the tiny book slips neatly into a pocket on the inside back cover of the large one. Both books tell the warm, touching story of a beautiful antique doll who had no home except a dusty shop until a strange accident brought her to the lonely little girl who had watched her longingly through the shop window.

FATIO—The Happy Lion
By LOUISE FATIO. Illustrated by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1954)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
The Happy Lion lived in the zoo of a small French town and was everyone's friend—or so he thought. Then one day his cage was left unlocked and he strolled out to return the townspeople's visits. An irresistible picturebook with a most satisfying ending and with Roger Duvoisin's wonderful pictures in color.

FATIO—The Happy Lion in Africa
By LOUISE FATIO. Illustrated by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1955)
Regular Edition $2.75*jd**
Library Edition $2.84 *net*
A second adventure of the famous Happy Lion! This time the lion finds himself in Africa, where zebras and antelopes run at the sight of him, and rhinoceroses and elephants seem ready to charge and trample him to death. "Truly," says the Happy Lion, "this is not a country for a lion!" Boys and girls will worry, but smile, at their hero's plight, and rejoice at his final homecoming to the little zoo in the small French town.
** Also available in French.*

FATIO—The Happy Lion Roars
By LOUISE FATIO. Pictures in three colors by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1957)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
The famous Happy Lion becomes lonely because unlike all the other animals in the zoo and the people who come to visit him, he has no company of his own kind. "Why am I alone in my house?" asks the Lion. But one day a small circus comes to town—and among the animals is the most beautiful lioness in the world. Here is the answer to the Lion's problem! Boys and girls will love the new occupant of the maison du lion.

FATIO—The Three Happy Lions
By LOUISE FATIO. Illustrated by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1959)
Regular Edition $2.75*jd**
Library Edition $2.84 *net*
Introducing the third Happy Lion—Francois, a beautiful lion cub! Francois is playful and very clever, but he does have a problem. He must soon have a trade, and so few careers are open to lions these days. Francois is so handsome, he could be a pet; he is so smart, he could work in a circus, or live in a zoo with his parents. He considers all these possibilities but finally finds for himself a special important job that will delight young readers as much as it did the Happy Lion and his beautiful Lioness.
** Also available in French.*

FATIO—The Happy Lion's Quest
By LOUISE FATIO. Illustrated by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1961)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
There is nothing like a friend, and dearest to the Happy Lion is François the zoo keeper's son. Little wonder that the Happy Lion should

go out in search of François when he misses him. "When one longs for a friend hard enough, one just finds him." But, how is the Happy Lion to tell the farmers and gendarmes about his troubles? To them, the Happy Lion has escaped, and this is the beginning of a wonderful game of cat and mouse that will delight the Happy Lion's reader friends. There is just one Happy Lion and in this capricious new picture story he is as appealing and memorable as ever.

FATIO—Le Bon Lion
By Louise Fatio. Illustrated by Roger Duvoisin.
32 *pp.*, 8 *x* 10, *ages 6–10* (1960) $2.95/*d*
Everyone knows *The Happy Lion* in English, but now, *Le Bon Lion* makes his appearance for young readers in the language of his native country. Already translated and published in France, *Le Bon Lion* is Whittlesey House's answer to the great interest in language teaching for young children and *les amis* of The Happy Lion will love to hear and learn to tell his story *en français*. As a book for teaching a foreign language, *Le Bon Lion* will also be eligible for purchase under the terms of the National Defense Education Act. But whether it's for fun or learning a new language, children will welcome *Le Bon Lion en francais*.

FATIO—Red Bantam
By Louise Fatio. Illustrated by Roger Duvoisin.
32 *pp.*, 9⅛ *x* 7⅛, *ages 4–8* (1963)
Regular Edition $2.75/*d*
Library Edition $2.84 *net*
Red Bantam was the favorite of the farmer's wife, but he was the smallest animal on Monsieur Dumollet's farm—except for Michel the canary. As soon as Red Bantam started a *cocorico* Big Rooster chased him to the other end of the barnyard. There was also the beautiful hen, Nanette, whom Red Bantam loved. How Red Bantam shows that a Bantam rooster can be small in size but great in heart and courage will delight all who are young in heart.

FEDDER—You, The Person You Want to Be
By Ruth Fedder. Illustrated by Algot Stenbery.
224 *pp.*, 5⅜ *x* 8, *teen ages* (1957) $3.50/*l*
Dr. Fedder invites young men and women to consider the kind of persons they would like to be and suggests methods to help them achieve this integration of personality. In this informal discussion and in the many case histories, readers will find direction that is especially helpful in coping with the tensions of the present atomic age, as well as in the wide field of continuing human relations.

FISHER—A Fair World for All
The Meaning of the Declaration of Human Rights
By Dorothy Canfield Fisher. Illustrated by Jeanne Bendick. With a foreword by Eleanor Roosevelt.
160 *pp.*, 6 *x* 9, *ages 10 and up* (1952)
$3.75/*d*
Here is the book for which parents, teachers, librarians have been asking—a simple, dramatic interpretation of the Universal Declaration of Human Rights. Dorothy Canfield Fisher, beloved and distinguished author, undertook what she considered this "almost alarmingly important" task. After long discussion and correspondence with UN officials, after the most careful study and research of the history of the declaration and the stated intention of its framers, Mrs. Fisher has succeeded in presenting the 33 articles dramatically and warmly in terms of the everyday experience of young people.

FISHER—And Long Remember
Some Great Americans Who Have Helped Me
By Dorothy Canfield Fisher. Illustrated by Ezra Jack Keats.
128 *pp.*, 6⅝ *x* 9¾, *ages 10 and up* (1959)
$3.50/*j*
Dorothy Canfield Fisher, one of the great people and most beloved writers of her time, offers this, her last testament, to young Americans. Here is her personal selection of great moments in the lives of American heroes—George Washington, Robert E. Lee, Thomas Jefferson, Nathan Hale, John Paul Jones, Dorothea Dix, and other men and women—who inspired and strengthened her by their courage, their idealism, and, frequently, their struggle against great odds. Mrs. Fisher herself said, "It seems right to dedicate this last book I shall ever write to the boys and girls in our schools and make it a collection of true, true stories about real people who have given us all reason to feel proud that we, too, are American citizens."

FREUND—Jewels for a Crown
By Miriam Freund, Ph.D., with a Foreword by Rene D'Harnoncourt, Director of the Museum of Modern Art, New York City. Illustrated with 13 six-color plates.
64 *pp.*, 6⅝ *x* 9¾, *10 and up* (1963) . $4.95/*d*
The story of the inspiration, creating and meaning of the famous windows in the synagogue at the Hadassah Hebrew University Medical Center in Jerusalem. They are jewels of translucent fire in a synagogue envisioned by Marc Chagall, the renowned artist, as "a crown offered to the Jewish Queen." Thus we have the art, science, and interpretation of the windows which are based on the Biblical accounts of the twelve sons of Jacob.

FROST—Fireworks for Windy Foot
By Frances Frost. Illustrated by Lee Townsend.
176 *pp.*, 5⅜ *x* 8, *ages 8–12* (1956) . . . $2.95/*j*
The Clark family—Toby, Betsy, and Johnny, their mother and father, their now-famous hired man, Cliff, and of course, their pony, Windy Foot, have recovered from the disastrous effects of the spring flood on their New England farm and are preparing for a wonderful summer highlighted by their special contribution to the town's Fourth of July parade and by Toby's discovery of what really makes a good American.

FROST—Legends of the United Nations
By Frances Frost.
323 *pp.* (1943) $3.95/*j*
"In choosing the stories, I have tried to present those which seemed to me most representative of the national characteristics of each country." Contains folk tales from: Great Britain, Poland, China, Norway, Russia, Greece, Czechoslovakia, India, United States, Netherlands, Mexico, France, Yugoslavia, Brazil, Canada, Australia, Belgium.

FROST—The Little Naturalist
By FRANCES FROST. Illustrated by KURT WERTH. Foreword by May Hill Arbuthnot.
48 *pp.*, 6 *x* 9, *ages 6–10* (1959)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
With lyrical story pictures, Miss Frost takes her readers on a tour of the private and exciting world of the woods, the pasture, the garden, and introduces them to the yipping fox cubs who play ball games, a mischievous crow, penguins in their "dinner suits," dizzy squirrels who wind around trees, to mention just a few of the colorful parade. A companion volume for the much-loved *The Little Whistler* with lively pictures full of warmth and humor by Kurt Werth.

FROST—Maple Sugar for Windy Foot
By FRANCES FROST. Illustrated by LEE TOWNSEND.
192 *pp.*, 5½ *x* 8, *ages 8–12* (1950)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*
A very real and exciting book about the Clark family on their New England farm and particularly about Toby Clark and his wonderful pony, Windy Foot.

FROST—Rocket Away!
By FRANCES FROST. Illustrated by PAUL GALDONE. With a foreword by ROBERT R. COLES, Hayden Planetarium.
48 *pp.*, 7⅛ *x* 10, *ages 6–10* (1953)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*
The account of an afternoon when David and Jean took the Planetarium's wonderful rocket trip through outer space to explore on the Moon. With exciting, up-to-date, authentic pictures by Paul Galdone.

FROST—Sleigh Bells for Windy Foot
By FRANCES FROST. Illustrated by LEE TOWNSEND.
184 *pp.*, 5½ *x* 8, *ages 8–12* (1948)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
A tale of "Christmas in New England, snow on the ground, and all the characters of *Windy Foot at the County Fair* with the added dash of bears, and deer, and skiing."

FROST—Windy Foot at the County Fair
By FRANCES FROST. Illustrated by LEE TOWNSEND.
153 *pp.*, 5½ *x* 8 (1947)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
Toby, aged 12, his delightful small brother and sister, his happy parents, hard-working farm people, manage to have time for fun and dreams. The whole family goes to the county fair to enter the various contests. Toby has patiently trained his pony, Windy Foot, for the great race, and at the Fair he meets Tish and her father, who help him to face . . . Lem, his opponent in the race.

FRYE—The Lamb and the Child
By DEAN FRYE, Illustrated by ROGER DUVOISIN.
32 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1963) .$2.75*jd*
Library Ed. $2.84 *net*
Into the traditional Nativity story of the shepherds who followed the star to Bethlehem, this ancient mystery play inserts the story, probably drawn from folklore, of Mak, a village scoundrel who stole a sheep and tried to disguise it as his child. An adaptation of a mystery play from the Wakefield Cycle (Fifteenth Century).

GALDONE—The Hare and the Tortoise
An Aesop Fable
Pictures in three colors by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛ (1962)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
On your mark? Get ready for a rerun of one of the most mismatched races of all time—the classic contest between the Hare and the Tortoise. Paul Galdone presents another favorite fable in large easy-to-read type, with his own bright winning illustrations.

GALDONE—The House That Jack Built
A Mother Goose Tale
Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1961)
Regular Edition $2.25*jd*
Library Edition $2.46 *net*
Correlated Textfilm Series—1 motion picture (color) .....$50.
Remember the hilarious chain reaction Jack the builder set off? From the house—to the malt—all the way to the "man all tattered and torn and the maiden all forlorn"—this well-loved tale has fascinated children for generations. They have enjoyed reciting its jingling rhymes and played at acting it out. Now, presented in bright colors by Paul Galdone, designed to match the format of his THE OLD WOMAN AND HER PIG and OLD MOTHER HUBBARD AND HER DOG, THE HOUSE THAT JACK BUILT is back to make merry a new crop of Mother Goose enthusiasts.

GALDONE—The Old Woman and Her Pig
A Folk Tale
Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Correlated Textfilm Series—1 motion picture (color) .....$85.
Remember the old woman who went to market to buy a pig? But on her way home she couldn't get the pig to jump over a stile. This might have been a problem, but not for the ingenious old woman, who used a cat, a rat, a rope, a butcher, an ox, water, fire, a stick and a dog to make the pig jump the stile. This is the first time this delightful folk story appears in a single volume. Beautifully illustrated in color by Paul Galdone who re-introduced *The Golden Touch*.

GALDONE—Old Mother Hubbard and Her Dog
A Mother Goose Tale
Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1960)
Regular Edition $2.25*jd*
Library Edition $2.46 *net*
Correlated Textfilm Series—1 motion picture (color) .....$50.
"Old Mother Hubbard, Went to the cupboard, To get her poor dog a bone, But when she got there, The cupboard was bare, And so the poor dog had none." Everyone may remember the opening lines to this old Mother Goose

Tale, but how many remember what a merry chase the dog led Old Mother Hubbard—to a baker, to a fishmonger, to an ale-house, just to mention a few—but every time the old woman got home, the dog was a few steps ahead of her.

GALDONE—La Vieille Femme et Son Conchon (French)
La Vieja y Su Cerdo (Spanish)
Editions of THE OLD WOMAN AND HER PIG. Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛ (1961).....each $2.95*jd*

THE OLD WOMAN AND HER PIG is a wonderful, easy way to help children learn French and Spanish. The familiar folk story, the rhythm of the lines, the repetition of the words used in the old woman's tale of woe as she recounts her troubles in bringing her pig safely home—provide an inviting and excellent frame for language learning. These line for line translations with phonetic pronunciation were done by Dr. Mary Finocchiaro, Associate Professor of Education and Director of the Foreign Language Institute at Hunter College.

GALDONE—The Three Wishes
A Folk Tale
Illustrated by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1961)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*

Once upon a time, and long long ago, there lived a poor woodman and his wife in a great forest. One day, just after the woodman had marked a huge oak tree for chopping, there stood before him a little fairy who begged him to spare the tree. When he agrees, she grants him three wishes. We won't tell you what the three wishes are but we will tell you that they are very, very funny. Paul Galdone—the artist of THE OLD WOMAN AND HER PIG, THE HOUSE THAT JACK BUILT, etc. has once again reintroduced a favorite classic for a new generation of boys and girls to love and enjoy.

GALDONE—Tom, Tom the Piper's Son
Illustrated by PAUL GALDONE.
In Press

Tom, Tom the Piper's Son, in its many versions has made generations of boys and girls laugh with delight. For this lively presentation, Paul Galdone has chosen to illustrate with gusty and gay, brightly colored drawings, the full chapbook extension of the well-known "Tom." As a special treat, the Carvalho version (published about 1830) as well as the more familiar short rhyme from Mother Goose, appear on the endpapers. They are decorated with original woodcuts adapted from the chapbook to make joy complete.

GILLEN—Tony's Good Luck
By MICHAEL GILLEN. Illustrated by the author.
48 *pp.*, 6⅛ *x* 8⅛, *ages 6–10* (1955).$2.25*jd*
Correlated Textfilm Series—1 motion picture (color).....$120.

The story of a wonderful day when Tony and his father, Gino, and Tony's new donkey, Bello, go from one exciting job to another, and discover that people always have need for a strong donkey and willing hands. A story which abounds in warmth and family closeness and proves that good luck is often the result of hard work.

GRANT—Louis Pasteur
Fighting Hero of Science
By MADELEINE P. GRANT. Illustrated with photographs and diagrams.
224 *pp.*, 5⅜ *x* 8, *teen ages* (1959)..$3.25*jd*

A new and different biography of Louis Pasteur by a scientist, biologist, distinguished teacher, and author. Because of her own scientific background, Dr. Grant is able to give her readers a special understanding of Pasteur's work in vaccines, fermentation, microbes, and crystals, in addition to the warm personal and family story of this great man. This exciting story is made more dramatic by the author's research, which carried her to Dr. Pasteur's birthplace, the town where he grew up, and Paris, where the famous Pasteur Institute still carries on his work.

GRANT—Wonder World of Microbes
By MADELEINE P. GRANT. Illustrated by CLIFFORD GEARY.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1956)....$3.00*j*

A distinguished teacher and author has given us a complete, fascinating account that describes microbes and their role in our lives. A book full of graphic experiments which answer such questions as how penicillin is made, how bread gets moldy, what makes cheese taste good, why milk is pasteurized, what happens when we are vaccinated against polio, and many other secrets from the world of tiny creatures which lies beyond what our eyes can see. Dr. Grant is Professor of Biology and Bacteriology at Sarah Lawrence College.

GRINGHUIS—The Young Voyageur
By DIRK GRINGHUIS. Illustrated by the author.
202 *pp.*, 5½ *x* 8, *ages 12 and up* (1955)
$3.25*jd*

The story of a boy who ran away to join the famed *voyageurs* and lived through captivity by the Indians to become one of the fur traders of the north. How Danny accomplished this, and how he found himself caught in the massacre of Fort Michilimackinac by Chief Pontiac's warriors, makes thrilling reading. Based on historical fact, the book is rich in detail of life among the *voyageurs* and the Indians during those years following the French and Indian Wars. To read the story is to share with Danny some of the problems facing a young boy who is forced to grow up in an era where only the strong survived.

HAWTHORNE—The Golden Touch
By NATHANIEL HAWTHORNE. Illustrated by PAUL GALDONE. Foreword by Anne Thaxter Eaton.
56 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1959)
Regular Edition $2.50*j*
Library Edition $2.63 *net*

A handsome volume in color presenting the well-loved Hawthorne tale about the legendary King Midas and his gift of the golden touch. Generations of readers have been entranced by the message of this story about a king who was granted his wish—to turn everything he touched to gold—and, thereby, almost lost the things most dear to him. Now Paul Galdone has created new and delightful pictures in black and red and gold to illustrate this classic.

HENRY—Always Reddy
By MARGUERITE HENRY. Illustrated by WESLEY DENNIS.
80 *pp.*, 6 *x* 9, *ages 8–12* (1947)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
The story of Reddy, an Irish setter, and how she earned a new home for herself and Snippet, her pup. "Funny and appealing and the drawings are delightful."

HEWETT—The Little White Hen
By ANITA HEWETT. Illustrated by WILLIAM STOBBS.
32 *pp.*, 9⅝ *x* 7, *ages 4–8* (1963)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
Once upon a time a little white hen found a piece of paper, covered all over with squiggly marks. But the little white hen could not read, so she decided that she ought to take this important 'letter' to the king. On the way she met a fox, a river and a fire, and as they were interested in her journey she put them in her basket and took them with her. Unfortunately, the king was not very pleased at being disturbed. How the hen's three companions came to her rescue makes an intriguing and satisfying tale. William Stobbs' drawings in brilliant scarlet, green and gray help to complete this striking picture book, by the author of THE TALE OF THE TURNIP.

HEWETT—The Tale of the Turnip
By ANITA HEWETT. Illustrated by MARGERY GILL.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1961)..*In Press*
"Once upon a time there was a house on a hill." This is the beginning of the beloved old folk tale of a turnip that grew and grew longer and longer and bigger and bigger until it was enormous. The roots were so deep and the leaves so large that it took "the little old man the grandfather," the little old woman the grandmother," the little girl the grandchild," a little black cat—and a little brown mouse—to pull it from the soil. The charm of repetition and of variety makes THE TALE OF THE TURNIP a favorite for younger children.

HINKINS—Gently Now
By VIRGINIA HINKINS.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1963)..$3.00*jd*
Turbulent with personal conflicts, with its clash between old and new south, old and new agriculture, here is a wonderfully original novel set in the Shenandoah Valley, by the author of STONEWALL'S COURIER.

HINKINS—Stonewall's Courier
The Story of Charles Randolph and General Jackson
By VIRGINIA HINKINS.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1959)...$3.00*jd*
Charles Randolph of the famous Virginia family was sixteen years old at the outbreak of the War between the States and eager to play his part. Based on the true account, this is the story of how he stole away on one of his family's thoroughbreds to save it from the enemy and became Stonewall Jackson's courier. With Charlie, readers will take part in Jackson's Valley Campaign, join the marches, share the hunger and the glory, and see the problems of a boy catapulted into the stern realities of war and its aftermath. Miss Hinkins, who had access to the Randolph family records, lives in Front Royal, Virginia, and knows the locale of her story very well.

HONOUR—Cave of Riches
The Story of the Dead Sea Scrolls
By ALAN HONOUR. Illustrated by PAULA HUTCHISON.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1956)..$2.95*j*
The first young people's book to tell the story of the astonishing discovery of the famous Dead Sea Scrolls. A chronological report of the fate of the scrolls from their accidental discovery in 1947 by a Bedouin boy who was searching for his lost goat, through the hands of merchants, scholars, archaeologists, and philanthropists on both sides of the ocean, to their present location—the modern museum of the Old City of Jerusalem. There is an account of the findings of an expedition conducted at the site of the cave and there are examples of the script and translations to give the reader an idea of what the scrolls may eventually tell us.

HONOUR—Secrets of Minos
Sir Arthur Evans' Discoveries at Crete
By ALAN HONOUR.
189 *pp.*, 5⅜, *x* 8, *photographs* (1961)..$3.25*j*
Secrets of Minos is the story of Sir Arthur Evans and his exciting discoveries at Knossos. The famous labyrinth, the bull of Minos, the mysterious destruction of the palace take on new meaning as we follow Evans into the past. We learn too about his early life and the many colorful events that led him to Crete and Knossos. More than a biography, this is the fascinating story of ancient kings, the legends that grew around them and their civilization. Exciting photographs complement the text.

HONOUR—Ten Miles High, Two Miles Deep
The Adventures of the Piccards
By ALAN HONOUR. Illustrated by CHARLES GEER and with photographs.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1957)..$3.00*jd*
The exciting and true story of the twin scientists Auguste and Jean Piccard, whose daring ascents into the stratosphere, and descent beneath the ocean, have revealed new and important findings to the world of science. Readers of all ages will be fascinated with the details of the preparations for these trips—and of the trips themselves—and will learn, as they read, much of the scientific method that was used in these experiments.

HONOUR—The Unlikely Hero
Heinrich Schliemann's Quest for Troy
By ALAN HONOUR. Illustrated by GRISHA DOTZENKO.
175 *pp.*, 5⅜ *x* 8, *teen ages* (1960)....$3.00*j*
Now, for the first time in a book written for young people, is the exciting biography of the man whose faithful study of Homer's *Illiad* led to a dedicated search for the ancient city of Troy. The story is filled with details of early archeological diggings and brings to life the ancient Greek world. Woodcuts by Grisha capture the mood and authenticity of the text.

HOUGHTON—They Marched with Spartacus
By ERIC HOUGHTON. Illustrated by ROBIN JACQUES.
128 *pp.*, 5⅜ *x* 8, *teen ages* (1963)..$2.75*jd*

In this novel, the author of THE WHITE WALL tells of another historic struggle against Rome—The Spartacus-led slave rebellion in 73 B.C. and its sweeping march for freedom. The hero is Cleon, a young slave who is rescued by the insurgent gladiators from his Roman task-master.

HOUGHTON—The White Wall
By ERIC HOUGHTON. Illustrated by ROBIN JACQUES.
120 *pp.*, 5⅜ *x* 8, *ages 8–12* (1962)..$2.75*jd*
Hannibal is marching on Rome with a large army, including cavalry and elephants. Ahead of him lie the Alps, the snow-clad mountains which he and his army must cross to reach his enemies. The story of this fantastic crossing is told through the eyes of Brancus, a young goat herder made homeless by mountain raiders.

HUBBARD—The Train That Never Came Back and Other Railroad Stories
By FREEMAN H. HUBBARD. Illustrated by KURT WIESE.
128 *pp.*, 5⅝ *x* 8⅜, *ages 8–12* (1952).$2.75*jd*
Dramatic incidents that really happened in American railroading—the train that never came back; the train crew who turned flood rescuers; Casey Jones's famous last run on the Cannonball Express; John Henry's contest with the steam drill; and others.

HYDE—Animal Clocks and Compasses
From Animal Migrations to Space Travel
By MARGARET O. HYDE. Illustrated by P. A. HUTCHISON.
157 *pp.*, 5⅜ *x* 8, *teen ages* (1960)..$2.95*j*
The fascinating, natural rhythms by which animals live and travel have puzzled scientists through the ages. They are continuing to search for the reasons and sometimes solve the puzzle in ways that are as interesting as animal habits themselves. What triggers bird migrations and what points the way? How does a salmon find its way from the ocean to its fresh water birthplace hundreds of miles away to hatch its young? Man has clocks and watches to tell him when it is "time" to do something, but creatures of the animal kingdom have their own built-in "clocks." There are many pieces to the puzzle of animal clocks and compasses and bit by bit, information is being added to what is already known.

HYDE—Animals in Science
Saving Lives through Research
By MARGARET O. HYDE. Illustrated by P. A. HUTCHISON.
144 *pp.*, 5⅜ *x* 8, *teen ages* (1962)
Regular Edition $3.25*jd*
Library Edition $3.01 *net*
From the depths of the oceans to outer space, animals play an important role in the world of science. Margaret Hyde here unfolds the dramatic story of these animal pioneers whose contributions to the world of science today save not only human lives but animal lives as well. The kinds of animals used in the world of science, where scientists obtain the animals they need, how scientists explore cancer, psychology, space medicine and other areas of research with the help of these creaters—all are part of this fascinating story. Included are many experiments for readers who like to explore firsthand.

HYDE—Atoms Today and Tomorrow
By MARGARET O. HYDE. Illustrated by CLIFFORD GEARY. New Revised Edition.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1959)
Regular Edition $3.00*jL*
Library Edition $2.96 *net*
This popular book has been brought up to date to cover all the latest information on atoms and atomic research and development. Dramatic new material on atomic farming, atomic travel, and use of atomic energy in industry has been added, and radioactivity and its control have been investigated further, as well as the question of the effects of bomb tests on weather. As before, the author concentrates on how atomic energy can be directed for good. Readers will find particularly exciting the author's report on the progress men are making in their efforts to produce electricity by fusion—one of the most difficult, fascinating, and important scientific projects ever undertaken. With over one hundred descriptive illustrations by Clifford Geary.

HYDE—Driving Today and Tomorrow
By MARGARET O. HYDE. Illustrated by CLIFFORD GEARY.
143 *pp.*, 5½ *x* 8, *teen ages* (1954)..$2.95*jd*
Expert driving means *safe* driving. With simple, lucid explanations and many graphic drawings, this book takes the reader right into the driver's seat to demonstrate how the automobile works, what it will do, and what it cannot be expected to do. It is a complete picture of driving as it is today and as it will be in the predictable future with special sections on rules of the road, causes of accidents, and hot rods.

HYDE—Exploring Earth and Space, 3rd Ed.
By MARGARET O. HYDE. Illustrated by CLIFFORD GEARY.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1963)..$3.50*jd*
Library Ed. $3.06 *net*
This third edition includes such new scientific breakthroughs as the D Stellorator, a machine of the future that may be able to produce electrical energy from atomic fusion, the universally acclaimed launching of Telstar, Mariner II's planetary probe toward Venus, and the possible cultivation of the Moon as a garden.

HYDE—Flight Today and Tomorrow
By MARGARET O. HYDE. Illustrated by CLIFFORD GEARY. Revised Edition.
138 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1962)
Regular Edition $3.00*jdL*
Library Edition $2.96 *net*
Keeping pace with the rapidly expanding field of flight is this timely revision. Opening with a completely new first chapter, the revision emphasizes the constructive force of flight in the lives of all people. Completely rewritten, the Chapter "Flight for Defense" now includes a description of the strategic Air Command and new planes and missiles. The new Chapter "Flight for Tomorrow" includes such planes as the X-15 and the VTOL's. The Chapters "Man in Space" and "Man on the Moon" have been rewritten to discuss astronauts and space flights of the recent past and projected future. New illustrative material by artist Clifford Geary completes the revision.

HYDE—From Submarines to Satellites
Science in Our Armed Forces, 1960 Printing
By MARGARET O. HYDE.
106 *pp.*, 6⅝ *x* 9¾ (1960).....$3.50*j*

Rapid developments in the field of military science have made changes necessary in each printing of this book. So much new material has just become available that this 1960 edition has been expanded to include information on Norad, BMEWS, the latest cruisers, rockets, submarines and planes. Prepared with full cooperation of the Army, Navy, and Air Force, illustrated with official photographs.

HYDE—Medicine in Action Today and Tomorrow
By MARGARET O. HYDE. Illustrated by CLIFFORD GEARY.
144 *pp.*, 5⅜ *x* 8, *teen ages* (1956)..$3.00*jd*
A new book in the Today and Tomorrow group—this time the dramatic presentation of new opportunities in medicine. Too often young people think of this field only in terms of doctor, nurse, dentist, or druggist, but Margaret Hyde in this book offers exciting information in more than 150 areas in medicine or allied to it and shows that more workers are needed in all of them. Definitive line drawings illustrate the text, and charts furnish valuable information concerning educational requirements, length of training needed, etc., for the various careers.

HYDE—Molecules Today and Tomorrow
By MARGARET O. HYDE. Illustrated by MILDRED WALTRIP.
144 *pp.*, 5⅜ *x* 8, *teen agers* (1963)
Regular Edition $3.25*jd*
Library Edition $3.01 *net*
The story of molecules—slow molecules, fast molecules and master molecules of life, including a discussion of DNA, man-made molecules, molecules from outer space and much more. An important section includes chemical experiments in which atoms are juggled to form new molecules.

HYDE—Off Into Space!
Science for Young Space Travelers
By MARGARET O. HYDE. Illustrated by BERNICE MYERS.
64 *pp.*, 6⅝ *x* 9¾, *ages 8–12* (1959)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
An exciting book of essential knowledge for the readers who may be our future space travelers. Simple answers to questions such as what will the space traveler wear, what will he eat, what training must he have, how will he travel, how long will he be gone, what will be his first stop, what planets may he possibly visit, what will his travel map look like, and what will life be like in a moon village? Important facts about gravity, the atmosphere, the solar system, principles of rocket travel, astronomical phenomena presented in terms of probable personal experience on this most challenging frontier.

HYDE—Plants Today and Tomorrow
By MARGARET O. HYDE. Illustrated by P. A. HUTCHISON.
157 *pp.*, 5⅜ *x* 8, *teen ages* (1960)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
In this book, Mrs. Hyde takes her readers on an exploration of the vast and exciting world of plants. Starting with a thorough description of plants, their many varieties and functions, she then describes man's attempts to find or create new plants. In other thought-provoking and informative chapters, she explains how plants grow, how they know when it is spring and time to bud, why they get sick, how plants act in the presence of light. Science enthusiasts will particularly enjoy the chapter that suggests some of the many experiments that can be done with plants at home.

HYDE—This Crowded Planet
By MARGARET O. HYDE. Illustrated by MILDRED WALTRIP.
160 *pp.*, 5⅜ *x* 8, *illus., teen ages* (1961)
Regular Edition $3.00*jd*
Library Edition $2.96 *net*
The world's population may double within the next 40 years. Can the new frontiers of science provide help in the race between people and resources? Some experts believe that man must begin to limit the number of births; others have confidence in man's ability to master his environment. In this provocative book, Award-winning author Margaret Hyde deals with some of the ways in which men look to science to provide more food, more minerals and energy from the earth, the sea and the sky in a world that is becoming more and more crowded.

HYDE—Where Speed Is King
By MARGARET O. and EDWIN HYDE. Illustrated by CLIFFORD N. GEARY. Revised Edition.
144 *pp.*, 5⅜ *x* 8, *teen ages* (1961)....$3.00*j*
Whether you're talking about "running the mile" or "rocketing into space," you're talking about one of the many areas WHERE SPEED IS KING. In the new up-to-date edition of their popular book, the Hydes have not only added new sports information and speed records and covered such activities as track events, water sports, bobsledding, auto racing. They discuss safety, health factors and sportsmanship, and include a completely new chapter, "Speeding into Space," which explores the importance of speed in the scientific world of space.

HYNEK AND ANDERSON—Challenge of the Universe
A Vistas of Science Book
By ALLEN J. HYNEK, Ph.D. and NORMAN D. ANDERSON. Illustrated by HELMUT WIMMER.
144 *pp.*, 5⅜ *x* 7 13/16, *teen ages* (1963)
$2.50*jd*
Library Edition $2.63 *net*
This is a joint project of the National Science Teachers Association and the National Aeronautics and Space Administration. It is a fascinating casebook of astrophysics and celestial mechanics. Projects and experiments are included.

JACKSON—Basketball Comes to North Island
By O. B. JACKSON. Illustrated by CHARLES GEER.
128 *pp.*, 5⅜ *x* 8, *ages 8–12* (1963).$2.95*jd*
Peenie Marsh and his best friend Jack Jeffers love basketball and look forward to games in the new gymnasium at North Island School. More excitement is brought to the game with the introduction of Fred Rowe, a newcomer to North Island. Friction occurs when a feud develops between Fred and Peenie's best friend Jack. Torn between friendship for Jack, and a desire to have the Rockets win the League trophy, Peenie Marsh discovers his own hidden qualities of strength and leadership.

JACKSON AND JACKSON—Basketball Clown
By C. P. JACKSON and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
168 *pp.*, 5⅜ *x* 8, *ages 12–16* (1956)..$2.95*j*
Another Jackson easy-to-read sports story—with large type and good strong action pictures. This basketball story joins the already successful football book, *Star Kicker*, and the baseball book, *Hillbilly Pitcher*. It is the story of Fred Lyons, the basketball captain, who persuades big, tall Moose Conklin to go out for the game, but then finds he cannot make Moose do things according to the Lyons method and that contributions of all kinds of people go to make up a good team.

JACKSON AND JACKSON—Freshman Forward
By C. P. and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *teen ages*.....$2.95*j*
A fast-moving sports story by the Jacksons, whose fans have already enjoyed *Puck Grabber, Basketball Clown,* and others. To his surprise, basketball-crazy Randy Hawley, a freshman, is selected as one of the five starters on the high school team. All goes well until Randy's meteoric success makes him lose sight of the fact that he must play for the team, not for himself, and it takes a lot of losing before he realizes that a guy who wants to take charge must first take charge of himself. Filled with stimulating basketball play and good action pictures.

JACKSON AND JACKSON—High School Backstop
By C. P. and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *ages 10–14* (1963).$2.95*j*
When Alden Smith and his twin Alice came to Lawren High, Alden looked forward to following in his father's footsteps and playing first baseman for the school the great Lew Lander had made famous. But in Lawren, where he was accused of being an outsider, Alden encountered a great apathy toward the sport and found himself challenged with the problems of playing catcher for the first time. The Jacksons' fans will find plenty of excitement and baseball play in this new sports adventure by the authors of HILLBILLY PITCHER, STAR KICKER, THE SHORT GUARD.

JACKSON AND JACKSON—Hillbilly Pitcher
By C. P. JACKSON and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1956)..$2.95*j*
Another fast-paced, easily read story. A boy from the Tennessee hills suddenly finds himself a part of a large urban high school where his odd accent, the prejudice of a rival, and his own stubborn pride make it difficult for him to realize himself, particularly on the baseball diamond where he is a natural talent. Lots of on-the-field action and strong illustrations by Robert Henneberger.

JACKSON AND JACKSON—Puck Grabber
By C. P. and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1957)..$3.00*j*
Another Jackson easy-to-read sports story—with large type and good strong action pictures by Robert Henneberger. This hockey story joins the already successful *Star Kicker, Hillbilly Pitcher,* and *Basketball Clown.* The senior hockey season at Meinland is an exciting and challenging one for Captain Bill Jones—in which he makes a change from center to goalie position, and learns that a captain must be a real "take charge guy." With much on-the-rink action, and tips for playing hockey.

JACKSON AND JACKSON—The Short Guard
By C. P. and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1961) $2.95*jd*
In this story of Bob Hallen who has to struggle to show what a short player can contribute to the game of basketball, the Jacksons give their fans another fast-moving, action-packed sports adventure. It is filled with stimulating on-the-court basketball play, and with strong action pictures by Robert Henneberger.

JACKSON AND JACKSON—Star Kicker
By C. P. JACKSON and O. B. JACKSON. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1955)..$2.95*j*
Ron Jensen was such a good kicker that everyone at Lee High called him "The Toe." But Ron did not want to star, he wanted to play the whole game; he felt he was being coddled because the Coach was about to become his stepfather. A good strong story of Ron's development from childish resentment to real understanding, with lots of exciting on-the-field action and good coaching side-lights. Black and white action illustrations of Ron's team, his family, and his friends.

JANICE—Angélique
By JANICE. Illustrated by ROGER DUVOISIN.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Angélique was the happiest duck in France. She lived in the Rue Vaneau in Paris, and she loved to walk, to smell the lilacs in spring and to take a bath in a large porcelain bowl. Then one day Coco arrived and EVERYTHING CHANGED. Coco was a black poodle who thought it fun to chase Angélique. When Coco destroyed a newly laid egg, Angélique decided to run away. It is in the Luxembourg Gardens where tired Angélique learned that "one must defend one's home" and that running away is never a solution.

JANICE—Minette
By JANICE. Illustrated by ALAIN.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1959)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
Presenting Minette, a cat that is a true French patriot, in a picture book full of charm and humor. At first Minette lived in the caretaker's rooms at the Palace of Versailles with Madame and Monsieur Henri. Madame Henri liked cats, but Monsieur Henri did not and he did not want Minette in the palace. But when a mouse began to nibble on the Queen's blue satin curtains—a mouse that could not be caught in a trap—it was Minette who solved the problem for the caretaker, for the French minister, and even for the mouse. Young readers will be fascinated by the beautiful pictures of the palace and the ingenious cat, which were drawn by Alain, the author-illustrator of *The Elephant and the Flea* and *The Magic Stones.*

JOSEPH AND LIPPINCOTT—Point to the Stars
By JOSEPH M. JOSEPH and SARAH LEE LIPPINCOTT.
96 *pp.*, 7⅛ *x* 9⅞, *ages 12–16* (1963) . $3.95*jd*
Library Ed. $3.31 *net*
An exciting and unique book of star study, which will enable the young astronomer to identify constellations, planets, and modern satellites and will make it possible for him to readily pick out the stars which pass him overhead, no matter where he may be. It is a guide which will give the reader confidence through its many star maps, diagrams and photographs.

KINNEY—The Kangaroo in the Attic
By HARRISON KINNEY. Illustrated by ALAIN.
32 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
This is the story of a little girl called Barbara Kaye, a cereal box and its prize. It is not a gun or a rocket or a plane, but Jumpy, a live kangaroo. The fact that Barbara's mother and father believe Jumpy is a toy, of course, compounds the confusion, which develops hilariously as Jumpy grows—and he grows and grows. The climax of the story about a live kangaroo is even more fun in this wonderful comedy of errors about the complications of a TV ad come to life.

KNIGHT—Halfway to Heaven
By RUTH ADAMS KNIGHT. Illustrated by Wesley Dennis.
192 *pp.*, 5½ *x* 8, *teen ages* (1952) . . $3.75*jd*
A book from our general list which will be immediately claimed by teenagers. The Hospice of St. Bernard stands today as it has stood for centuries, offering its unique hospitality to all who travel through the Great Pass. Here in the story of a monk named Joseph, in the trials of his novitiate, in his work with the dogs and his love and care of the famous Barry, in the victory he wins over the cold and the snows and over himself, is a real picture of the great service and great faith that have distinguished this order from its beginnings.

KNIGHT—The Land Beyond
A Story of the Children's Crusade
By RUTH ADAMS KNIGHT. Illustrated by WESLEY DENNIS.
218 *pp.*, 5½ *x* 8, *teen ages* (1954) . . $3.50*jd*
The story of a mountain boy David and his great dog Regis and of the journey they made across the Alps, through the Pass of the Great St. Bernard with a part of the Children's Crusade—only to be turned back by forces outside themselves. Ruth Knight has caught again the majesty and challenge of the great mountains in a moving and exciting tale of a boy who turned defeat into victory. A book of unusual setting and a story of universal appeal with beautiful line drawings by Wesley Dennis.

LANSING—Shackleton's Valiant Voyage
By ALFRED LANSING.
224 *pp.*, 5⅜ *x* 8, *teen ages* (1960) . . $3.95*jd*
By popular demand—a special shortened edition of the Book-of-the-Month Club selection, *Endurance*, Alfred Lansing's gripping story of Sir Ernest Shackleton's ill-fated Antarctic expedition. Mr. Lansing has retained all the drama and exciting details of the book from which this version is taken, but it is less heavily documented and has been reset in large, clear type.

LAROM—Bronco Charlie
Rider of the Pony Express
By HENRY V. LAROM. Illustrated by WESLEY DENNIS.
48 *pp.*, 6½ *x* 9½, *ages* 6–10 (1951)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
Few stories on the Pony Express have been produced for the younger boys and girls. Now comes one that is based on true incidents in the life of a real Pony Express rider. Exciting, easy-reading book full of action pictures.

LAROM—Ride Like an Indian
By HENRY LAROM. Illustrated by WESLEY DENNIS.
140 *pp.*, 6 *x* 9 (1958) Regular Edition $3.00*jd*
Library Edition $2.96 *net*
A quiet boy suddenly finds himself spending a summer on a dude ranch among lots of energetic boys and girls, all of whom find group activities and strenuous riding easy and fun. Jerry's summer becomes important in many ways, however, when he finds that Old Applesauce, his beginner's mount, is an Apaloosa and that Sam, the ranch's Indian boy, knows how to train him to run with the swiftest horses. By Henry Larom, whose Mountain Pony stories have been enjoyed by so many.

LAVELLE—The Man Who Was Chosen
The Story of Pope Pius XII
By ELISE LAVELLE.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1957) $3.00*j*
The first young people's biography of the present Pope, Pius XII—an engrossing human picture of Eugenio Pacelli from his boyhood in Rome and his school days through his many diplomatic assignments, his dramatic election to the highest place in the Church, and his contributions to the cause of universal peace. An important portrait of a fine modern mind and a great heart. Filled with anecdotes of family, school, and life in the Vatican City.

LEAR—The Two Old Bachelors
By EDWARD LEAR. Illustrated by PAUL GALDONE.
32 *pp.*, 6⅝ *x* 9¾, *ages 5–9* (1962)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
There were once two old bachelors living in one house: "One caught a Muffin, the other caught a Mouse." Their journey in search of stuffin's in the Shops, in all the Gardens round, and up hill to the Sage, is told in rollicking rhyme. Helen Masten, Specialist in Children's Literature, says . . . "Edward Lear's hilarious little horror story has been illustrated with drawings which capture the delicious humor of the verse."

LINDQUIST—Alaska, the Forty-ninth State
By WILLIS LINDQUIST. Illustrated by P. A. HUTCHISON. Foreword by The Honorable Ernest Gruening, U.S. Senator from Alaska.
112 *pp.*, 6⅝ *x* 9¾, *teen ages* (1959)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
Here is the full and exciting story of Alaska, America's giant state, her present and her past —Vitus Bering's dramatic voyages of dis-

covery; Seward's folly; the mad days of the gold rush; the long struggle for statehood that followed. This is the story of a land of untamed wilderness, of dog sleds, bush pilots, salmon, totem poles, mining and logging camps, gushing oil wells, and booming modern cities —a state where adventure beckons the bold, and opportunity the pioneer. Alaska, as Mr. Gruening has said, is "the one place under the sun where it is possible to step back into American history and live again the elsewhere-departed days of the pioneer." By the author of *Call of the White Fox* and others.

LINDQUIST—Burma Boy
By WILLIS LINDQUIST. Illustrated by NICOLAS MORDVINOFF.
96 *pp.*, 6⅛ *x* 8¼, *ages 8–12* (1953)
Regular Edition $2.95 *jd*
Library Edition $2.96 *net*
A stirring tale of the love of the boy Haji for the great elephant Majda Koom and of Haji's agonizing search for the elephant when everyone else thought he had gone mad for good. A remarkable story of rare courage, beautifully written, and skillfully illustrated by the Caldecott Award winner, Nicolas Mordvinoff.

LINDQUIST—Call of the White Fox
By WILLIS LINDQUIST. Illustrated by P. A. HUTCHINSON.
192 *pp.*, 5⅜ *x* 8, *ages 8–12* (1957)..$3.00*j*
The exciting story of how a boy's love for a wild Arctic fox cub changed the life of the Eskimo community in which he and his sister and mother and father lived. Mark's father runs the store in a remote Alaskan community. Mark and his Eskimo friend, Oka, have wonderful times in the tundra land until Mark rouses the strange Eskimo superstitions by taming the white fox. An action-packed story full of unusual nature material about Eskimo dogs, foxes, snowshoe rabbits, caribou and other animals and birds of the far north.

LINDQUIST—The Red Drum's Warning
By WILLIS LINDQUIST. Illustrated by HARPER JOHNSON.
112 *pp.*, 5⅜ *x* 8, *ages 8–12* (1958)..$3.50*j*
Haiti, turbulent land of mystery and voodoo drums, is the unusual setting for this brisk adventure tale in which a young boy's loyalty to a friend is tested. Kit Standish, the thirteen-year old son of an American plantation owner, leads a happy carefree life with Teebo his native friend, although he is aware that Teebo is involved in the mysterious voodoo cult. Then one day Teebo presents Kit with a beautiful little red drum which is said to have powerful magic. After that Teebo disappears. Rumors of war soon prove to be true and other strange things begin to happen. To give his parents a chance to get away, Kit stays behind at the plantation. How he manages to escape is the dark secret of the little red drum. By the author of *Burma Boy* and *Call of the White Fox.*

LORD—My Dog and I
By NANCY LORD. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅞ (1958).....$2.50*j*
A picturebook for the youngest group about a very small boy and his very large dog. The world of the boy and the dog is full of amusing and exciting adventures—including a big parade, a trip to the zoo, a heroic rescue—that every young child will recognize.

LUXFORD—Kerry Kangaroo
By NOLA LUXFORD. With color illustrations by OSCAR FABRES.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1957)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
A story of friendship and its rewards—a touching picturebook about a kangaroo training for the big race, who can ill afford the time she gives to a wounded orphan koala bear. Full of warmth and humor, with many Australian animals that children will love—the Kookaburra bird, the platypus, the rabbit, the wombat, the wallaby—and with a surprise ending on the day of the big race.

MacGREGOR—Miss Pickerell and the Geiger Counter
By ELLEN MACGREGOR. Illustrated by PAUL GALDONE.
123 *pp.*, 5½ *x* 8, *ages 8–12* (1953)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Miss Pickerell is back again, with her famous cow and her young nephews. Boys and girls will . . . learn something of atomic science and the Geiger counter.

MacGREGOR—Miss Pickerell Goes to the Arctic
By ELLEN MACGREGOR. Illustrated by PAUL GALDONE.
126 *pp.*, 5½ *x* 8, *ages 8–12* (1954)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Fans of Miss Pickerell will be delighted to see her again—this time clothed in skin boots, wolverine-lined parka, and snowshoes. In the Arctic, bent on rescuing a lost weather expedition, she and her companions find adventure when they run out of fuel and are forced to land. Lots of fun and lots of sound information about whiteouts, permafrost, and other Arctic phenomena.

MacGREGOR—Miss Pickerell Goes to Mars
By ELLEN MACGREGOR. Illustrated by PAUL GALDONE.
128 *pp.*, 5½ *x* 8, *ages 8–11* (1951)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
When Miss Pickerell returned from her month's vacation she was very surprised to find someone had been living in her house and that a large rocket ship was in her pasture. How Miss Pickerell took off with the rocket ship crew and what she found on Mars will amuse the 8- to 11-year-olds interested in science fiction.

MacGREGOR—Miss Pickerell Goes Undersea
By ELLEN MACGREGOR. Illustrated by PAUL GALDONE.
128 *pp.*, 5½ *x* 8 (1953)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Miss Pickerell is back again, this time to venture far below the surface of the sea and learn of the vast possibilities of underwater photography, atomic submarines, and sonar equipment.

MacGREGOR—Mr. Ferguson of the Fire Department
By ELLEN MACGREGOR. Pictures in three colors by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1956)...$2.50*j*

A picture book set in that favorite spot of all boys and girls, the firehouse. The story concerns the fire department cook, Mr. Ferguson, who wins the right to ride on the fire truck by getting the five firemen a firehouse pole, which they very much need. There are complications, however, because this is a pole they can slide *up* as well as down.

MacGREGOR—Mr. Pingle and Mr. Buttonhouse
By ELLEN MACGREGOR. With illustrations by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1957)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
A picturebook for the youngest group about an activity that all small children delight in—going visiting. One morning Mr. Pingle woke with the idea of paying a surprise visit to his friend, Mr. Buttonhouse, who lived 22½ miles away in a large lemon-colored house right at the river's edge. He packed his suitcase and boarded a train. But that very morning, Mr. Buttonhouse decided to pay a surprise visit to Mr. Pingle, and hired a motor boat to take him up the river Boys and girls will love the details of how the two friends both set out on their journeys and travel by boat and train, and they will worry a little until the wonderful moment when Mr. Pingle and Mr. Buttonhouse meet right in the middle of their trip. By the author-artist team that gave us *Theodore Turtle* and the famous *Miss Pickerell* books.

MacGREGOR—Theodore Turtle
By ELLEN MACGREGOR. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1955)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*
A very happy picturebook by the author of the famous Miss Pickerell stories. This book concerns a forgetful turtle named Theodore and the hilarious complications of a particular day when Theodore wanted to go down town but couldn't find his fourth rubber. With lots of Paul Galdone's amusing pictures to make young readers laugh.

MacKELLAR—Kickoff
By WILLIAM MACKELLAR.
184 *pp.*, 5⅜ *x* 8, *ages 12 and up* (1955)
$2.50*jd*
This is a story with two surefire appeals—sports and a mystery. It concerns a young Scottish boy who comes to America on a scholarship with no idea of playing in American sports. A strange combination of circumstances, however, bring him to the football squad and he learns the game at the same time that he makes fast friends. With plenty of actual games and interesting material on how soccer skills can be used in American football.

MacKELLAR—The Team That Wouldn't Quit
By WILLIAM MACKELLAR.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1956)..$2.95*jd*
A fast-moving basketball story centered around Captain Doug Mason who refuses to be downed by the fact that the spectacular Brad Silvers and several other players leave the team. Doug puts all his hopes in a very tall newcomer, Jeff Baron. Jeff develops, but on the eve of the big play-off is injured and Doug is forced to do a lot of serious thinking. When the game starts Brad Silvers is back on the team and it is he who tosses the winning basket for Colville. Good sports scenes and good character development.

MacKELLAR—Two for the Fair
By WILLIAM MACKELLAR. Illustrated by NORA S. UNWIN.
64 *pp.*, 6⅛ *x* 8⅛, *ages 8–12* (1958)..$2.50*j*
A second memorable book for the middle group that this author won so completely with *Wee Joseph*. Gavin's grandfather had seen many a country fair, but now he is so crippled with arthritis that only a miracle can get him over the road to Dunstane. Gavin impulsively promises his grandfather that he will get him there, and the great courage this small boy shows in fulfilling his promise makes an amusing and moving story.

MacKELLAR—Wee Joseph
By WILLIAM MACKELLAR. Illustrated by EZRA JACK KEATS.
80 *pp.*, 6⅛ *x* 8⅛ *ages 8–12* (1957)..$2.75*j*
Wee Joseph looks like a miserable mongrel to most eyes, but he is a real dog aristocrat to young Davie who buys him with his hard-earned sixpence. Davie's stern father says there is no place for a mere pet in the household, and since Davie can't return the pup or even give him away, his father orders that the pup be put into the river. Davie prays for a miracle—quite a small one—to save his dog. His prayer is answered in a most surprising way and Joseph joins the family. Many line drawings truly capture the Scottish background of this story.

MARSHALL—Friends with God
Stories and Prayers of the Marshall Family
By CATHERINE MARSHALL. Illustrations in three colors by BARBARA COONEY.
48 *pp.*, 7⅛ *x* 9⅞, *ages 6–10* (1956)..$2.00*jd*
A book for which the readers of *God Loves You* have waited—more stories and prayers which the Marshall family have loved and wish to share. Everyday graces, simple but searching stories about God and our fellowman, poems everyone will want to remember and live with. A delightful but important book with Barbara Cooney's delicate and distinguished illustrations, a book to be read aloud and shared by the whole family.

MARSHALL AND MARSHALL—God Loves You
By CATHERINE MARSHALL and PETER MARSHALL. Illustrated by NORA S. UNWIN.
48 *pp.*, 7⅛ *x* 10, *ages 4–9* (1953)...$2.95*jd*
Now the author of *A Man Called Peter* gives us a beautiful little book of stories and prayers which Catherine and Peter Marshall and their son, Peter John, have loved. Warm, simple talks with God, humorous stories Dr. Marshall used to illustrate some of his famous children's sermons, all illustrated by the distinguished artist, Nora Unwin. A delightful, thoughtful book which parents can share with children and which children will read and love themselves.

MENOTTI—Amahl and the Night Visitors
By GIAN-CARLO MENOTTI. Illustrated by ROGER DUVOISIN.
86 *pp.*, 6 *x* 9, *all ages* (1952)
Regular Edition $3.75*j*
Library Edition $3.26 *net*

Complete text of the new opera that has been received with such enthusiasm all over the world, presented in narrative form by Frances Frost. The story concerns Amahl a crippled boy who entertained the Wise Men on their way to Bethlehem and because he was willing to give the Child the only valuable thing he had—his crutch—was suddenly able to walk. Beautifully illustrated in color by Roger Duvoisin.

MERRILL—Blue's Broken Heart
By JEAN MERRILL. Illustrated by RONNI SOLBERT.
32 *pp.*, 7⅝ *x* 8½, *ages 4–8* (1960)
Regular Edition $2.25*jd*
Library Edition $2.46 *net*
Thomas, the animal doctor, was hard put to help Blue, a little dog that came to him with a broken heart, but the doctor wrapped a bandage around Blue and suggested that he stay at the hospital with the other animals. What happens then is the secret of Blue's recovery—a wonderful secret for children to share. And the pictures are as warm and appealing as the story.

MILLER—The Electrical Genius of Liberty Hall
Charles Proteus Steinmetz
By FLOYD MILLER.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1962)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
The story of the famous political refugee from Bismarck's Germany who came to the United States and who contributed so much to the field of electrical science. Steinmetz' scientific achievements are woven into this warmly human account of a man, who though physically handicapped made remarkable contributions to the arts as well as to the sciences and who was loved by all who knew him.

MITCHELL—Ceramics
By LANE MITCHELL, Ph.D. Illustrated with photographs and charts.
128 *pp.*, 5¼ *x* 7⅝, *teen ages* (1963) .$2.50*jd*
Library Ed. $2.63 *net*
This book describes how man has learned to take inexpensive available earth materials and by hard baking, transform them into useful as well as beautiful objects. The author traces the principle of the ancient potter's art in early civilizations to such modern applications as the manufacture of nuclear reactors, synthetic diamonds and rocket nose cones.

MITCHELL AND WILSON—Ships That Made U.S. History
By HELEN MITCHELL and W. N. WILSON.
96 *pp.*, 7½ *x* 9⅞, *ages 10 and up* (1950)
$3.75*jd*
The great ships that have made history for the United States, from *Santa Maria* to the *Missouri*, sail across the pages of this book. W. N. Wilson, well-known marine painter, has drawn 41 pictures, all carefully authenticated, full of vigor and action.

MOORE—Bear Trouble
By LILIAN MOORE. Illustrated by KURT WERTH.
40 *pp.*, 6⅛ *x* 8⅛, *ages 5–9* (1960)
Regular Edition $2.25*j*
Library Edition $2.46 *net*
Correlated Textfilm Series—1 motion picture (color).....$120.00
Deep in the woods, under shady trees, is a beautiful old pond where Youngest Chipmunk and Smallest Squirrel and all the other small woods animals like to swim and fish or just to cool off. One day, their routine happy life is threatened when lazy old Big Bear finds a wonderful sleeping haunt near THEIR POND. Not even Old Woodchuck seems able to cope with the problem. But sometimes the best solutions are the least likely, for when Youngest Chipmunk and Smallest Squirrel just have to take a peek at the sleeping bear, they find a painless answer to their trouble. Painless but ticklish, although what they do is a secret each reader must find for himself.

MOORE—Little Raccoon and the Thing in the Pool
By LILIAN MOORE. Illustrated by GIOIA FIAMMENGHI.
48 *pp.*, 6⅛ *x* 8⅛, *ages 5–9* (1963)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Little Raccoon was little but he was brave, and most anxious to show his mother he could go all by himself to the running stream and bring home crayfish for supper. It was Fat Rabbit who warned him about the thing in the pool. He had to cross the pool to dig for crayfish on the other side and yet he did not want to show that he was afraid. His wise mother had just the right solution and while it puzzled her son, it will delight all young readers.

MOORE—Tony the Pony
By LILIAN MOORE. Pictures by WESLEY DENNIS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 5–9*
Regular Edition $2.25*j*
Library Edition $2.46 *net*
Tony the little pony lived in the park. Day after day, he pulled his little yellow cart around and around the dirt track. But one day Tony walked right straight ahead, through the gate and into the zoo. What happened when Tony went exploring all by himself to discover lions that roar, seals that do tricks, elephants with wonderful trunks, and bears with secrets will enthrall young readers. With Wesley Dennis' exciting pictures throughout, this is a particularly attractive easy-reading book.

MORAN—Sophocles the Hyena
By JIM MORAN. Illustrated by ROGER DUVOISIN.
48 *pp.*, 7⅛ *x* 10, *ages 6–10* (1954)..$2.50*jd*
Correlated Textfilm Series—1 motion picture (color).....$120.
Here is a wonderful read-aloud book taken from the new symphony which received such wide critical acclaim. It is the tale of a cat named Morris who convinced Ralf Ralf the dog, Emma the duck, and Miff the mole that they should learn to meow. When a mean, hungry, cat-eating hyena appeared, however, even Morris stopped meowing and tried to *cock-a-doodle-doo*. Everyone will laugh aloud at this story and at Roger Duvoisin's merry pictures.

NEWELL—Express to the Stars
Rockets in Action
By HOMER E. NEWELL, National Aeronautics and Space Administration. Illustrated by GUSTAV SCHROTTER.
320 *pp.*, 5⅜ *x* 8, *young adults* (1961) $5.75*jd*
In this book, Dr. Newell presents a comprehensive picture of modern rocketry in theory

and action; its early beginnings, the inspiring work of the present, and its expectations for the future. He discusses the essential ideas and concepts in rocketry. From ideas, he moves to the actual construction of both liquid and solid fueled rockets; their basic features and their differences in design. After explaining the physics of the universe and those conditions which man will have to overcome in space travel, the author covers not only the satellites and space probes that have taken place, but those planned for the future.

NEWELL—Guide to Rockets, Missiles and Satellites
Revised Edition.
By HOMER E. NEWELL, National Aeronautics and Space Administration. Illustrated by photographs and diagrams. Second Edition.
80 *pp.*, 6⅝ *x* 9¾, *teen ages* (1961)
$3.25*jd*

This greatly enlarged Second Edition of GUIDE TO ROCKETS, MISSILES AND SATELLITES reflects the many advances that have been made since the appearance of the first edition. Not only have many new American and foreign rockets, missiles and satellites been added to the book, but the material on those previously included has been completely updated. Many new official photographs have been added of both the old and new listings. There is also a quick reference chart of successful satellites and space probes.

NEWELL—Space Book for Young People
By HOMER E. NEWELL, National Aeronautics and Space Administration. Illustrated by ANNE MARIE JAUSS. New Revised Edition.
128 *pp.*, 5⅜ *x* 8, *young adults* (1959) . $2.75*j*

The recent activities in the field of rockets, space and space travel are reflected in the new edition of this book that was first published in May, 1958. Material on sounding rockets, artificial space satellites and space probes is updated, in addition to a completely new Chapter 15 that relates the first steps to space that man has taken. New pictures and charts have been added to match the textual revision.

NEWELL—Window in the Sky
The Story of Our Upper Atmosphere
By HOMER E. NEWELL, JR. Illustrated by GUSTAV SCHROTTER.
128 *pp.*, 5⅜ *x* 8, *young adults* (1959) . $2.75*j*

In this stimulating new book, Dr. Homer E. Newell, Jr., of the National Aeronautics and Space Administration defines the troposphere, stratosphere, mesosphere, and exosphere. He gives all the latest information about our window in the sky, the upper atmosphere—its composition and behavior, its density, pressure, temperature, and radiation—and he tells about many of the interesting phenomena that occur at high altitudes. In an age when man is sending rockets and satellites into the sky and planning to follow them himself, this authoritative book on the upper atmosphere is much needed.

NEWLAN—First to Venus
The Story of Mariner II
By IRL NEWLAN, Manager, California Institute of Technology. Line drawings, photographs and charts.
64 *pp.*, 6⅝ *x* 9¾, *young adults* (1963)
$3.25*jd*

A photographic-filled book describing the 1962 flight of the first spacecraft to reach the orbit of Venus. Earth's closest planetary neighbor, and to bring back data on the rotation, atmosphere and surface of this planet.

OGILVIE—Becky's Island
By ELISABETH OGILVIE.
160 *pp.*, 5⅜ *x* 8, *ages 12–16* (1961)
$3.25*j*

Everyone seemed bent upon pushing Vicky away from the freedom and outdoor fun she and her cousins had always shared. In her flight from the restrictions of what seemed a stuffy adult world, Vicky stumbled upon Becky's Island and its neglected people and responded with warmth to its challenge. Her partner in the Becky's Island venture is also a new friend—Luke Pepperell. This latest novel by Elisabeth Ogilvie grew out of an actual event in Maine history.

OGILVIE—Blueberry Summer
By ELISABETH OGILVIE.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1959) $3.00*j*

This well-known novelist has written a delightful young people's romance. Cass had looked forward so long to this summer when she would have a job of her own and a vacation away from the family. Then suddenly, for the first time she was really needed at home. When she bitterly accepted this fact, she had no idea of the wonderful discoveries the summer would bring—and, of course, no idea of meeting Adam.

OGILVIE—How Wide the Heart
By ELISABETH OGILVIE.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1959) $3.00*j*

With high school graduation behind and Boston art school ahead, Ellen Douglass is confident of herself and her future. She looks forward to a serene summer at home on Bennett's Island. But, on the island, romance intrudes. Faced with making a decision about an early marriage, Ellen finds herself at a crossroad. Maine is again the background of this intriguing new junior novel by Elisabeth Ogilvie, the author of many successful young adult and adult novels.

OGILVIE—The Fabulous Year
By ELISABETH OGILVIE.
223 *pp.*, 5⅜ *x* 8 (1958) $3.00*j*

Cass began her senior year in high school with unusual confidence and with a firm plan. And that plan did not include any of the worrisome things which began happening on the very first day of school. She refused to be detoured by Alicia's problems, by facing the true nature of the Calipurnia Club, by answering Adam's searching questions when he came up from medical school on vacation, until suddenly she knew that no one can have a truly fabulous year by turning her back on life. A second book about the wonderful girl and the Maine town of *Blueberry Summer*.

OGILVIE—The Young Islanders
By ELISABETH OGILVIE. Illustrated by ROBERT HENNEBERGER.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1960) $2.95*j*

It's one thing to want a boat, but to have your wish come true is another, so Jamie and Eric discover as they spend the summer, grow (sometimes painfully) to the responsibility of their own boat and begin to consider the people around them. Here is the beauty of a Maine summer with all the wonders of lobster-

ing, exploring islands, day-dreaming and even fighting, as teen age boys will. Elisabeth Ogilvie has re-created a slice of Maine summer and while the heroes of the story are boys, girls will also enjoy reading about Jamie and Eric's adventures during a summer in Maine.

OGILVIE—Turn Around Twice
By ELISABETH OGILVIE. Illustrated by ROBERT HENNEBERGER.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1962)..$3.25*jd*
When reticent, sixteen-year-old Burnley Wilder wins a contest which gives her a choice of $3,000 or a Maine island, Burnley chooses the island to the flagrant disgust of her younger brothers and sister. But the promise of exploring the island on their own unites the children. How they encounter other occupants on the island and become involved in a mystery makes this one of Elisabeth Ogilvie's more exciting teenage novels.

PACE—Home Is Where the Heart Is
By MILDRED MASTIN PACE. Jacket and end papers by ROBERT HENNEBERGER.
192 *pp.*, 5½ *x* 8, *ages 12–16* (1954)
$3.00*jd*
The rare and delightful story of Brady Allen, who, though she went to live among strangers, could never be an outsider. Secretly she had feared that the Marstons in their great rambling house and their jumbled family affairs might not want her, but it was to Brady that they all turned, especially Bob. Brady learned that the motto she had worked on a sampler is true, "Home Is Where the Heart Is."

PACE—Old Bones, The Wonder Horse
By MILDRED PACE. Illustrated by WESLEY DENNIS.
119 *pp.*, 6 *x* 9, *ages 10 and up* (1955)
Regular Edition $3.25*jd*
Library Edition $3.01 *net*
This is the rags-to-riches story of one of the best loved American horses. Old Bones, as Exterminator was known to his hundreds of thousands of fans all over the country, came out of nowhere to win a Kentucky Derby and to run a hundred races before his retirement. He was a homely horse with a great heart and almost human intelligence. His story has all the color and excitement and warmth of his own unique personality. Wesley Dennis' horse pictures need no explanation.

PACE, LAROM, AND CANNAM—Three Great Horse Stories
By MILDRED PACE, HENRY LAROM, and PEGGIE CANNAM. Pictures by WESLEY DENNIS and ROSS SANTEE.
512 *pp.*, 6 *x* 9, *ages 10 and up* (1957)
$4.95*jd*
Here are three complete books—unabridged and with all the original illustrations—in one big volume.
Old Bones, The Wonder Horse by Mildred Pace—The true story of the famous Derby winner, Exterminator, with many pictures by Wesley Dennis, including frontis and double spread in full color.
Mountain Pony and The Pinto Colt by Henry Larom—An exciting western mystery with many pictures by Ross Santee.
Black Fury by Peggie Cannam—A moving story of a boy and a horse, both lonely and cruelly treated, who come together happily because of the boy's belief and dogged persistence.
A wonderful gift—a most satisfying book to own.

PERRY—Exploring the River
By JOHN and JANE GREVERUS PERRY. Illustrated by STEPHEN KRAFT.
224 *pp.*, 5⅜ *x* 8, *teen ages* (1960)...$3.50*jd*
Everyone knows what a river is—or does he? This simple question has no easy answer, for a river is more than a large stream of flowing water. Exploring a river is an exciting and endless opportunity. From a damp spot in the earth up in the hills, a river has a long life as it grows and broadens and finally flows into the sea. It has had an even longer past, for the river has been shaped and molded by the forming of the earth millions of years ago and even now is changing course and shape as more rain falls and soil erodes and man himself builds the land around.

PERRY AND PERRY—Exploring the Seacoast
By JOHN and JANE GREVERUS PERRY. Illustrated by STEPHEN KRAFT.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1962)...$3.50*j*
In this companion volume to EXPLORING THE RIVER, John and Jane Greverus Perry take their teenage readers on a personal voyage of observation and discovery around the seacoasts of our country. The authors investigate plant and animal life, climate, geology, geography, and ecology. And they examine the industry, commerce, and urban development—the processes that are related to each other by their coastal location.

PERRY AND PERRY—Exploring the Forest
By JOHN and JANE PERRY. Illustrated by STEPHEN KRAFT.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1962)....$3.50*j*
Like its two predecessors, *Exploring the River* and *Exploring the Seacoast*, *Exploring the Forest* studies the ecology of nature and its interaction with the economy of man. The reader is projected into forest settings and then invited to begin the process of observation and discovery. In *Exploring the Forest* the reader becomes a camper, a hiker and a woodsman.

PERRY—Our Wonderful Eyes
By JOHN PERRY. Illustrated by JEANNE BENDICK.
159 *pp.*, 5⅜ *x* 8, *ages 12 and up* (1955)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
An excellently organized book by a government scientist relates the meaning and function of eyesight in thirteen chapters that cover the subject from facial expression to what it's like to be blind. To tackle the problem of eye physiology he discusses light sources and characteristics in terms that make the basic principles clear and fascinating.

PERRY—17 Million Jobs
The Story of Industry in Action
By JOHN PERRY.
192 *pp.*, 5⅜ *x* 8, 4 *charts, teen ages* (1958)
$3.95*j*
17 million jobs and how is the teen ager to choose? Here for the first time is a complete picture of industry today and the career opportunities it offers. Engineers and technicians are

in constant demand and these fields are thoroughly explored. This is a readily understandable discussion of large plants and small; of the roles of workers skilled and unskilled; of the structure of manufacturing plants with clear descriptions of starting jobs—requirements, pay, opportunity, necessary education and/or apprenticeship. A comprehensive guide to countless satisfying careers within our highly developed industrial world.

PHOEBE—Noses Are For Roses
By PHOEBE. Illustrated by WILLIAM A. McCAFFERY.
32 *pp.*, 7⅛ *x* 9⅛, *illus., ages 4–8* (1960)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

What are you for? This is a book about you, your head, your eyes, your legs, your toes, your nose—all of you, from your head to your toes. You will see that you are for everything you can do. You are for love. Beautifully illustrated in three colors and black and white by William A. McCaffery.

PINE AND LEVINE—Air All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
1 motion picture....*black and white* $60.00
color $120.00

In this new science activity book are the fascinating facts about a substance that cannot be seen or tasted or smelled, but which keeps us alive—air. The authors describe the properties of air and tell about the many ways in which air works for men—air is squeezed in tires to make them hard; in balls to make them bounce; and in brakes to stop a train. Air slows a parachute, supports a glider, and "pushes" a jet. Keyed to the new curriculum being launched in the New York Schools, *Air All Around* is filled with simple experiments and with Bernice Myers' delightful illustrations in color.

PINE AND LEVINE—The Chinese Knew
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by EZRA JACK KEATS.
32 *pp.*, 7⅛ *x* 9⅛, *ages 5–9* (1958)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

Here is another science activity book to follow the authors' colorful *The Indians Knew* and *The Pilgrims Knew*. Now the authors and artist show how the ancient Chinese knew and understood ink and paper making, blockprinting, using the abacus for counting, making porcelain, using the water clock, etc. And as they did in their two previous books, the authors show us first how we use these same scientific principles today, and then provide the reader with a simple experiment to demonstrate each principle in operation. A fascinating combination of science and social studies—full of exciting brilliantly colored pictures which are accurate scientifically and historically.

PINE AND LEVINE—Electricity and How We Use It
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1962)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*

What electricity is—where electricity comes from—how electricity gets into one's house are among the many science facts explained in this new book in the successful series by Tillie S. Pine and Joseph Levine. As in their earlier books, simple, easy-to-perform experiments are fully illustrated with Bernice Myers' brightly colored drawings.

PINE AND LEVINE—The Eskimos Knew
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by EZRA JACK KEATS.
32 *pp.*, 7⅛ *x* 9⅛, *ages 5–9* (1962)
Regular Edition $2.95*jd*
Library Edition $2.96 *net*

The Eskimos knew so many things for which people throughout the world are indebted, as you will see in this companion volume to THE INDIANS KNEW, THE PILGRIMS KNEW, and THE CHINESE KNEW. For it was the Eskimos who knew how to get fresh water from salty sea water, how to build waterproof boats, how to use air to keep things floating, how to insulate their igloos, how to keep food from spoiling, and so much more. This famous team (Pine and Levine) show how we today apply the same principles the Eskimos used, and they provide simple home experiments to demonstrate these principles. Mr. Keats' bright, attractive drawings make this interesting book a beautiful book as well.

PINE AND LEVINE—Gravity All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1963)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*

Young readers can find out all about the fascinating subject of gravity in this new addition to the successful science series. Tillie S. Pine and Joseph Levine range from a discussion of the "pull" of the earth, what gravity does to falling things and how gravity can be used to help us, to how gravity keeps the moon in its orbit and how space ships can escape the pull-back of gravity in this exciting book filled with simple experiments and delightful illustrations by Bernice Myers.

PINE AND LEVINE—Heat All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1963)..$2.50*jd*
Library Ed. $2.63 *net*

In this ninth book in their successful "All Around" series, Tillie Pine and Joseph Levine answer such questions as: where does heat come from?, why do bridges stretch?, how do storm windows keep a house warm? Simple experiments are included.

PINE—The Indians Knew
By TILLIE S. PINE. With illustrations by EZRA JACK KEATS.
32 *pp.*, 7⅛ *x* 9⅛, *ages 5–9* (1957)..$2.95*j*
Library Edition $2.96 *net*

A unique book in which science and social studies go hand in hand. The author shows in some 15 instances that the American Indian knew how to solve many of the problems we face in everyday life—making fire, preservation of food, by drying, fertilization of plants, floating lumber in water, using the moon to measure time, etc. First, the reader learns how the Indian did it, then our use of the same concept today, and finally, there is a very simple experiment that the child can do.

PINE AND LEVINE—Friction All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
1 motion picture....*black and white* $60.00
color $120.00
Look around you! Is your teacher erasing a blackboard? Is a ball rolling across the yard? Is someone sliding into home base? All these things involve FRICTION. For wherever we are, things are being rubbed together in some way and it is this rubbing together of objects that we call friction. With these examples, the well-known authors of *Sounds All Around, Water All Around* and *Air All Around* begin the story of friction.

PINE AND LEVINE—Light All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–11* (1961)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Here is the sixth in the successful series of younger science books by Tillie S. Pine and Joseph Levine. This is the story of light, light everywhere day and night. Does the sun shine at night? Where do colors come from? Can light bounce? These are just a few of the intriguing questions that are answered in this very complete story of light for young science enthusiasts.

PINE AND LEVINE—Magnets and How to Use Them
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by ANNE MARIE JAUSS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 6–10* (1958)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
All kinds of magnets—the horseshoe to the electromagnet are described, as well as the things that will stick to them, which part is the strongest, how to make your own, etc. Fully illustrated, simple experiments are provided to demonstrate the action and use of magnets. The combination of these experiments with clear pictures and text makes this an absorbing as well as scientific book.

PINE AND LEVINE—The Pilgrims Knew
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by EZRA JACK KEATS.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1957)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
A particularly timely book and also of permanent interest as is its predecessor, the colorful and important *The Indians Knew*. Now the authors and artist show how the Pilgrims solved problems of everyday life—making wind and water work for them, spinning and weaving, making windows without glass, making candles and soap, etc. and how we use these same principles today. Simple experiments demonstrate each operation. An engrossing combination of science and social studies and full of exciting pictures.

PINE AND LEVINE—Sounds All Around
By TILLIE S. PINE and JOSEPH LEVINE. Pictures in two colors by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8⅛, *ages 7–10*
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Water gurgling, birds singing, crickets chirping, engines roaring—music, laughter, talk. What makes sound, what really happens when sounds are made, and why are some sounds deep and others high? All these questions and many more are answered by the well-known authors of *Magnets and How to Use Them, The Chinese Knew, The Pilgrims Knew*, etc., as they introduce young readers to the wonderful world of sound in this exciting new book. Filled with experiments that call for materials easily found around the home. And illustrated with bright, clear pictures.

PINE AND LEVINE—Water All Around
By TILLIE S. PINE and JOSEPH LEVINE. Illustrated by BERNICE MYERS.
48 *pp.*, 6⅛ *x* 8, *ages 7–11* (1959)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Water on the land, in food, in plants, in the soil, in the air, as well as water in people, is discussed in this new science activity book. It explains the various uses of water by people, animals, and plants, and it shows how water can be drawn out of the air, how water can be made to evaporate faster, what happens when water turns to ice, and many other fascinating facts. Keyed to the new curriculum being launched in the New York schools, it is filled with simple experiments and with Bernice Myers' delightful illustrations in color.

POOLE—Ballooning in the Space Age
By LYNN POOLE. Illustrated by GUSTAV SCHROTTER.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1958)...$3.25*j*
The valuable knowledge about the stratosphere that can be gathered only on balloon ascensions is emphasized in this book about the adventurous past, present and scientific future of ballooning by the well-known author and producer of the very successful Johns Hopkins science program. He recalls the ascents of the Montgolfiers, the Piccards, Colonel Simons, Commander Ross, Blachard, Jeffries, Coxwell, Glaisher, Gray, Settle, describes various balloons and the way these strato-laboratories work, recounts stories of recent balloon trips, and forecasts the trips that will come in the near future.

POOLE AND POOLE—Balloons Fly High
200 Years of Adventure and Science
By LYNN and GRAY POOLE. Illustrated by RICHARD BERGERE.
72 *pp.*, 6⅝ *x* 9¾, *ages 8–12* (1961)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
This colorful history is filled with exciting facts about balloons and balloonists. What better way to introduce young readers to the experience of space? From the Montgolfiers' first balloon to the dramatic launching of Echo I, all the vital details of man's ballooning attempts are retold. Richard Bergere's drawings not only illustrate the text but will aid the reader in performing his own space experiments.

POOLE AND POOLE—Carbon 14
And Other Science Methods That Date the Past
By LYNN and GRAY POOLE. Illustrated by P. A. HUTCHINSON.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1961)..$3.50*jd*
With the help of new methods for dating ancient objects and natural substances, modern science is rewriting the timetable of history.

How this dating is done, and what has been discovered by means of it is demonstrated in this exciting book. The authors explain in simple terms Nobel-prize Winner Willard F. Libby's technique of using the radio-active isotope C-14 to date objects. They also introduce the dating of pottery by *archaeomagnetism*, of obsidian by *hydration rate* and other artifacts by *thermoluminescence*, and they discuss the dating of the earth and the universe.

POOLE—Diving for Science
By LYNN POOLE. Illustrated by JEANNE BENDICK.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1955)....$2.95*j*
An authentic factual book on the exciting contribution which skin, aqualung, and helmet divers are making to the work of scientists. This is a picture of diving not only for individual information and fun, but also for important research in utilization of ocean products, in charting of fish migrations and habits, in discovery of new oil and mineral deposits, in salvage, and in many other fields.

POOLE—Frontiers of Science
By LYNN POOLE. Illustrated by SAM CITRON.
192 *pp.*, 5⅜ *x* 9, *teen ages* (1958)..$3.25*j*
A fifth book by the author of *Today's Science and You, Your Trip into Space, Science the Super Sleuth,* and *Diving for Science*—this time a stimulating discussion of many of the latest developments in important scientific fields, of the changes they are bringing into our lives, and the avenues they open to us all—infrared photography, miniaturization, harnessing of solar energy, burial of atomic wastes, new methods of locating mineral deposits, digital computers, tracers, and many other frontier areas.

POOLE—Science the Super Sleuth
By LYNN POOLE. Illustrated by CLIFFORD GEARY.
192 *pp.*, 5½ *x* 8, *teen ages* (1954)....$2.95*j*
Here is an account of the large, fascinating, ever-expanding field of science in the service of our great police and protection units. Every year hundreds of crimes are solved because the scientist in the laboratory works long and hard over meticulously collected evidence. Lynn Poole, author of *Today's Science* and *You and Your Trip into Space*, in this profusely illustrated book shows us simply and accurately the many methods by which scientists make this great contribution.

POOLE—Today's Science and You
By LYNN POOLE. Illustrated by JEANNE BENDICK.
208 *pp.*, 5½ *x* 8, *teen ages* (1952)...$3.00*jd*
An up-to-date, provocative book based on the material Lynn Poole has written for the very widely known and much praised television program, the *Johns Hopkins Science Review*. Believing that we are living in one of the most exciting periods of scientific exploration, the author describes, understandably and carefully, many 20th century developments and their contribution to our world and our lives.

POOLE AND POOLE—Volcanoes in Action
Science and Legend
By LYNN and GRAY POOLE. Illustrated with photographs and with line drawings by GUSTAV SCHROTTER.
96 *pp.*, 6⅝ *x* 9¾, *teen ages* (1962)
Regular Edition $3.00*jd*
Library Edition $2.96 *net*
The composition of the earth, with its various layers; types of eruption; the origin of some of the world's amazing volcanic formations; why earthquakes often accompany volcanoes, as well as lore and superstition are explored while Paricutin in Mexico; La Soufriere on the island of St. Vincent; Katami in Alaska, Nyamuragira and Nyiragongo in Africa; Kilauea and Mauna Loa in Hawaii are among the many volcanoes introduced in this useful, intriguing book. There are diagrams, line drawings, a map of the world's volcanic regions, and sixteen carefully selected photographs.

POOLE—Your Trip into Space
By LYNN POOLE. Illustrated by CLIFFORD GEARY.
224 *pp.*, 5½ *x* 8, *teen ages* (1953)....$2.95*j*
The latest scientific findings on what space travel actually will mean to the layman—how far off it is, what kind of accommodations we can expect, the most likely stages in the trip, the stop-over on a space platform, protection from meteorites and cosmic rays. By the producer of the Johns Hopkins TV program *Tomorrow*, with thrilling drawings by the talented and famous space artist, Clifford Geary.

POSIN—Life Beyond Our Planet
A Scientific Look at Other Worlds in Space
By DAN Q. POSIN, Professor of Physics, De Paul University. Illustrated by GUSTAV SCHROTTER.
128 *pp.*, 5⅜ *x* 8, *teen ages* (1962)..$3.25*jd*
Do living beings exist on planets other than Earth? Here, in an exciting book, a distinguished physics professor offers strong argument for his belief that they do. What conditions must be present in order to support life? Could beings exist with a biology totally different from that of Man with its carbon base—glassy silicon creatures, for example, or others even more unfamiliar and strange? "Dr. Posin has gathered together from many sources all the facts and fantasies to support his fervent belief that intelligent life abounds plentifully on other planets. . . . One of the author's aims is to stir the imagination and he succeeds, which should make the book popular with teen-agers and adults." Sarah Lee Lippincott, Sproul Observatory, Swarthmore College.

RICHARDSON—Astronomy in Action
By ROBERT RICHARDSON. Illustrated by GUSTAV SCHROTTER.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1962)..$3.95*jd*
This well known astronomer-author covers a vast range of material in the field of astronomy with scientific theory included as well. A book about astronomers and astronomy—it includes considerable material on the structure and function of large observatories, an account of subjects in which an astronomer may specialize, the differences in a career in astronomy today contrasted with one thirty years ago, and much more.

RICHARDSON—Second Satellite
By ROBERT S. RICHARDSON. Illustrated by MEL HUNTER.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1956)....$3.50*j*
An exciting first—a strong fiction story which is set against the background of the astronomer's actual world. The story of the summer Cy Westscott was forced to spend on the desert while his astronomer father was engaged

in a search for another earth satellite and the drama of the moment when skeptical Cy found himself an important part of that search. All the excitement of a great observatory told by Robert Richardson, who is an astronomer at the Mount Wilson and Palomar Observatories in California, and illustrated by Mel Hunter, who has spent time studying the actual great telescopes.

ROSS—Scat, the Witch's Cat
By GERALDINE ROSS. Illustrated by KURT WERTH.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1958)
Regular Edition $2.00*j*
Library Edition $2.28 *net*

"In the crags of Crazy Mountain, near the boiling Fire Fountain, lived a witch named Mrs. Stitch." These are the first lines of a picture book about a cat that might be your own. Boys and girls will be fascinated with all the occupants of Mrs. Stitch's cave—the snake named Jake, the owl named Scowl, the bat named Brat, the crow named Joe, and most of all by the thinly flat cat named Scat, who is frankly scared of witches and their pranks. How Scat escapes to a real home where he stays inside on Halloween with his eyes closed, makes a perfect read-aloud book, with Kurt Werth's pictures in color to add to the fun.

ROSS—Stop It, Moppit!
By GERALDINE ROSS. Illustrated by KURT WERTH.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1959)
Regular Edition $2.25*j*
Library Edition $2.46 *net*

Moppit, the mixed-up Easter bunny, was tired of hearing everyone cry "Stop it, Moppit!" But what could he do? Every time he picked up an egg he would drop it. What happens when Moppit takes over a "special" Easter job, and quite accidentally invents a game all the children love, makes a story that will delight every child who has tried and been told to "stop it." Told in the tongue-teasing lines that made *Scat the Witch's Cat* a joy. Illustrated with gay pictures in vivid Easter colors by Kurt Werth.

RUCK-PAUQUET—Twenty-two Little Cats
By GINA RUCK-PAUQUET. Illustrated by EVA HOHRATH.
32 *pp.*, 7¾ *x* 9⅞, *ages 4–8* (1962)
Regular Edition $2.75*j*
Library Edition $2.84 *net*

Eleven little cats lived in a tumble-down house. Five were grey, three black, two white, and one was a calico cat. A little boy tried to keep them fed. Then each had a kitten and he couldn't fine enough food for twenty-two little cats. How the boy gets an idea and how the butcher and baker and other people help the little cats makes a delightful, charming and humorous picture book.

SAXE—The Blind Men and The Elephant
By JOHN GODFREY SAXE. Illustrated in three colors by PAUL GALDONE.
32 *pp.*, 9⅞ *x* 7⅛, *ages 4–8* (1963)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*

Remember the ancient story about the six blind men who wanted to see the elephant (though all of them were blind), and how each man in his turn was stubbornly certain that the elephant was "like a snake," "a fan," "a rope" etc.? Paul Galdone has selected John Godfrey Saxe's version to embellish with entertaining pictures in brilliant colors to enliven the droll verse.

SCHATZ—When Will My Birthday Be?
By LETTA SCHATZ. Illustrated by RICHARD BERGERE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1962)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*

Benjy wished he could have a birthday every day. As soon as one birthday was over, he would ask, "When will my birthday be?" Benjy's mother told him he would have to wait a whole year—all summer, all fall, and all winter. "Watch the apple tree in the backyard," she told Benjy. "When the blossoms bloom again on the apple tree, that's when your very next birthday will be." All young readers will share Benjy's excitement as he waits for his birthday. They will share his delight in the different seasonal activities. Richard Bergere's beautiful pictures show how Benjy and his special tree grow one year older.

SCHNEIDER—Everyday Machines and How They Work
By HERMAN SCHNEIDER. Illustrated by JEANNE BENDICK.
192 *pp.*, 5½ *x* 8, *all ages* (1950)
Regular Edition $2.95*jdL*
Library Edition $2.96 *net*

In simple language and with hundreds of Jeanne Bendick's popular, easy-to-understand line drawings, this book explains the workings of all kinds of machines and devices used in the home, from electric toasters and Yale locks to electric trains and musical instruments.

SCHNEIDER—Everyday Weather and How It Works
By HERMAN SCHNEIDER. Illustrated by JEANNE BENDICK. Revised Edition.
192 *pp.*, 5⅜ *x* 8, *ages 10 up* (1961) .$3.25*jdL*
Library Edition $3.01 *net*

Now, this most popular weather book contains latest data on the use of radar, airplane reconnaissance, weather satellites, and other new weather-detection devices. The entire fascinating book has been up-dated and expanded. Sunny days for children, rainy days for the farmer, snowy days for the skier, and calm days for the sailor—take your pick of the weather you wish, and then, hope you get it! Jeanne Bendick's pictures, many new to this edition, are gay, vividly descriptive, and, of course, scientifically accurate.

SCHNEIDER—Your Telephone and How It Works
By HERMAN and NINA SCHNEIDER. Illustrated by JEANNE BENDICK. Revised Edition.
96 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1962)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*

In this new edition of their popular book on the telephone, the Schneiders discuss the latest important developments in this field of communication. Here is all the graphic material of the first edition on how sound travels, how manual and dial systems work, how exchanges operate, how the handy-talkie, walkie-talkie, and phones in automobiles, trains, ships, and airplanes work. And in addition, latest telephone switching machinery, new ways of han-

dling long-distance calls, the impending use of earth satellites for transmitting telephone and television communication, and other advances are described.

SCHNEIDER AND SCHNEIDER—Science Fun with Milk Cartons
By HERMAN and NINA SCHNEIDER, with JEANNE BENDICK.
192 *pp.*, 5½ *x* 8, *ages 10 and up* (1953)
Regular Edition $2.95*jL*
Library Edition $2.96 *net*
Bridges, motor cranes, dump trucks, railroad cars, boats, elevators, and many other fascinating items! All with simple, detailed directions to show how they can be made and Jeanne Bendick's wonderful graphic drawings. Boys and girls love them; science teachers, librarians welcome this activity book which incidentally cleverly illustrates various scientific principles.

EDITORS OF SCHOLASTIC MAGAZINES —What You Should Know About Communism —and Why
Junior Edition
128 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1962)
Junior Edition $2.50*jd*
Library Edition $2.63 *net*
Young Adult Edition.....$2.95*jd*†
Correlated Filmstrip Series—8 filmstrips (color).....each $6.75
set $48.00
WHAT YOU SHOULD KNOW ABOUT COMMUNISM—AND WHY studies the philosophy, history, organization and spread of communism throughout the world. How Lenin became dictator, Stalin's reign of terror, the Communist movement westward, Communism in China, the beginning of the Cold War, Khrushchev's rule, a glimpse of life in Russia today, how communists train the minds of youth and how they stay in control, are covered in a clear and precise fashion. A very important section at the end of the book discusses communism in the U. S. and the role of freedom in the world today.

SCHWARTZ—The Earth Is Your Spaceship
By JULIUS SCHWARTZ. Illustrated by MARC SIMONT.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1963)..$2.50*jd*
Library Ed. $2.63 *net*
Children will find science and fun, too, as the author reminds them of their everyday adventures on their merry-go-riding Spaceship, Earth ("that holds you with its strong gravity pull," that has "everything on board that you need for your long space trip," that grows food "in the gardens, the fields and the forests that cover it").

SCHWARTZ—I Know a Magic House
By JULIUS SCHWARTZ. Pictures in three colors by MARC SIMONT.
32 *pp.*, 7⅛ *x* 9⅞, *ages 5–9* (1956)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
An informational picture book which presents to the very young child all the wonders and surprises which he will find right in his own home—mountain water that comes right into the house, music that comes from black circles, pictures of what is happening miles away, warmth from a fire that is not in the room, a way of turning dark into light, splashy water that turns in hard chunks, etc.

SCHWARTZ—It's Fun To Know Why Experiments with Things Around Us
By JULIUS SCHWARTZ. Illustrated by EDWIN HERRON.
128 *pp.*, 5½ *x* 8, *ages 8–12* (1952)
Regular Edition $2.75*jL*
Library Edition $2.84 *net*
The inside story of materials necessary to us all—iron, coal, cement, glass, rubber, wool, salt, bread, soap, paper. A science book in which the reader is the detective and is provided with graphic, easy-to-do experiments to illustrate the principles involved in the making and use of these materials. Filled with clear, dramatic pictures to demonstrate the text.

SCHWARTZ—Now I Know
By JULIUS SCHWARTZ. Illustrated by MARC SIMONT.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1955)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
A bright picturebook which will sharpen the observations of very small children and lead them to discover for themselves the explanations of many sounds, sights, and experiences of their everyday home life. A rhythmic text and delightful pictures which make wonderful games of creaking floors, rain, thunder and lightning, and even the darkness.

SCHWARTZ—Through the Magnifying Glass Little Things That Make a Big Difference
By JULIUS SCHWARTZ. Illustrated by JEANNE BENDICK.
144 *pp.*, 5½ *x* 8, *ages 10 and up* (1954)
Regular Edition $2.75*jdL*
Library Edition $2.84 *net*
An engrossing science activity book which demonstrates how a simple, inexpensive magnifying glass can open up a whole new world and can explain such things as atoms exploding about us all the time, why dust can give rise to life, how crystals grow into their perfect shape, why fingerprints are actually a signature, and many, many other everyday wonders.

SELF—The Complete Book of Horses and Ponies
By MARGARET CABELL SELF. Illustrated by R. W. MUTCH.
320 *pp.*, 6 *x* 9, *ages 10 and up* (1963)..$5.95*jd*
Young readers who love horses and ponies need one good book containing all the things they most want to know. Here it is! The evolution and physical structure of the horse; types and breeds; behavior; selecting a mount; equipment and stable; care, handling and training; first aid; basic and advanced riding techniques are all clearly and fully explained. More than 140 illustrations, photographs, and a detailed index and glossary are included.

SIMON—Microbes and Men
By HAROLD J. SIMON, M.D., Stanford University. Illustrated with photographs and charts.
160 *pp.*, 5¼ *x* 7⅝, *teen ages* (1963)..$2.75*jd*
Library Ed. $2.84 *net*
This project of the National Science Teachers Association under the sponsorship of the National Cancer Institute, is a book that describes bacteria, viruses, and other microorganisms. Projects and experiments are included.

† *Textbook edition available at educational list price.*

SIMON AND BENDICK—The Day the Numbers Disappeared
By JEANNE BENDICK and LEONARD SIMON. Illustrated by JEANNE BENDICK.
48 *pp.*, 6⅝ *x* 9¾, *ages 8–12* (1963) $2.75*jd*
Library Edition $2.84 *net*
A sound and amusing math book about the complications in Mr. Dibbs' classroom when the boys and girls express boredom with numbers and have to manage a day without them. To earn them back, they must work their way through the various number systems—Egyptian, Greek, Roman, Arabic. Jeanne Bendick's pictures in two colors dramatize the text and include costumed figures as the various number systems are explored.

SKILLING AND RICHARDSON—Sun, Moon, and Stars
By WILLIAM T. SKILLING, San Diego State College, and ROBERT S. RICHARDSON, Griffith Planetarium.
274 *pp.*, 6 *x* 9 (1946) $4.50*j*
A modern and unusual introduction to astronomy, simply and interestingly written to appeal particularly to teen-age readers. A wealth of fascinating material on the most popular science in America is presented in informal and conversational style. It includes in addition to the usual discussions of the heavens, a number of special features including An Imaginary Visit to the Moon, Radar Contact with the Moon, Sun and Atomic Bomb Compared, Reason for the Milky Way, and a complete section devoted to Observatories, Past and Future. There are almost a hundred illustrations, including many interesting photographs and numerous charts and diagrams.

SOLOMON—Telstar
Communication Break-through by Satellite (3rd Printing, Updated)
By LOUIS SOLOMON. Illustrated with photographs.
64 *pp.*, 6⅝ *x* 9¾ (1963) $2.95*jd*
This photograph-filled book tells the story of the communication satellite that made cross-ocean television possible for the first time on July 10, 1962. It has been updated to include glimpses of satellites that preceded Telstar I and of some that followed, including Relay, Syncom, and Telstar II.

STUART—Andy Finds a Way
By JESSE STUART. Illustrated by ROBERT HENNEBERGER.
112 *pp.*, 5⅜ *x* 8, *ages 7–11* (1961)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
"Practically nothing is impossible for a boy who really wants a pet." Even though he lives on a farm, Andy Scott has never had a pet of his own. Gypsy, the family cow, gives birth to a little calf whom Andy is determined to keep and whom his father is determined to sell for veal. Filled with love for the calf and yet knowing that his parents need the money, Andy attempts to solve both dilemmas. The solution is not simple but the problem is solved, and both Andy and his readers profit by this heart-warming and true experience.

STUART—The Beatinest Boy
By JESSE STUART. Illustrated by ROBERT HENNEBERGER.
110 *pp.*, 5½ *x* 8, *ages 8–12* (1953)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
A first children's book by America's well-loved novelist, Jesse Stuart. An account of a Kentucky boy's struggle to earn money for the most important thing in his life—a Christmas present for his grandmother.

STUART—A Penny's Worth of Character
By JESSE STUART. Illustrated by ROBERT HENNEBERGER.
62 *pp.*, 6⅛ *x* 8¼, *ages 7–11* (1954)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Jesse Stuart's second book for boys and girls is about a boy named Shan, who when he returned empty paper sacks to the storekeeper in the country store was tempted to accept a penny each for ten sacks when only nine were re-usable. How Shan struggled with his problem and solved it makes a story that will not easily be forgotten. An easy-reading book filled with Robert Henneberger's pictures which touch just the right note of excitement and understanding.

STUART—Red Mule
By JESSE STUART. Illustrated by ROBERT HENNEBERGER.
125 *pp.*, 5⅜ *x* 8, *ages 8–12* (1955)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
Another heartwarming book by the author and artist who give us *The Beatinest Boy* and *A Penny's Worth of Character*. This time the story of an important friendship between a boy named Scrapple and a strange old man called "Red Mule." A wonderful account of a man who loved mules and took care of them when they seemed no longer useful for farm tasks, of an understanding father who could see how important such a friendship is to a boy, and of a boy who helped his hero by finding new work for the mules.

STUART—The Rightful Owner
By JESSE STUART. Illustrated by ROBERT HENNEBERGER.
110 *pp.*, 5⅜ *x* 8, *ages 8–12* (1960)
Regular Edition $2.50*j*
Library Edition $2.63 *net*
A moving story about the warmth and adventure that are shared by a boy and his dog. Mike had seen Speckles wandering in the hills and was eager to have him, despite the fact that Speckles might one day return to his rightful owner. When the owner does come back, Mike is faced with a painful decision but one from which he learns much and which young and old readers will find moving. Robert Henneberger's illustrations complement the story and bring the Kentucky countryside to life.

SULLIVAN—White Land of Adventure
The Story of the Antarctic
By WALTER SULLIVAN. Illustrated with photographs.
224 *pp.*, 5⅜ *x* 8, *teen ages* (1957) .. $3.75*jd*
By popular demand, the author of *Quest For a Continent* has produced a special shortened version of his superb story of Antarctica. A fascinating true story of the cold, lonely regions of the world, the penguins, seals, whales and birds of the Antarctic, the ceaseless winds that mold the ice, volcanoes thrust through the ice cap. Most of all, young readers will want the adventure of the various expeditions, crevasse detecting, fossil discoveries, weather data, outfitting of expeditions, etc.

SWEZEY—Chemistry Magic
By KENNETH M. SWEZEY.
192 *pp.*, 6 *x* 9 (1956).....$4.95*jdL*
Brings to the young scientist nearly 200 fascinating chemical experiments he can perform at home. Designed to give the experimenter a real knowledge of how chemistry works and how it is applied in everyday life and industry. The book explores the magic of chemistry that creates new textiles, plastics, and other useful products, tests food, catches criminals, and performs hundreds of other useful functions. Photographs show exactly how to set up a workshop, what apparatus to use and how to use it, and how to carry out these interesting experiments.

TABAK—A Fish Is Not a Pet
By MAY TABAK. Illustrated by ROGER DUVOISIN.
32 *pp.*, 8 *x* 10, *ages 4–8* (1959)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
A picturebook about a little girl who wants a pet of her own. And about her wonderful Uncle Rosario, who not realizing that she has a very special pet in mind, gives her a guppy named Grover, a parakeet named Parker, a turtle named Trumball, and at last a puppy named Licorice. In the process the little girl finds that she was wrong when she said, "A fish is not a pet, a parakeet is not a pet, a turtle is not a pet," and that all her wonderful gifts are pets just as the puppy she has wanted so much.

TANNENBAUM AND STILLMAN—Isaac Newton
Pioneer of Space Mathematics
By B. TANNENBAUM and M. STILLMAN. Illustrated by GUSTAV SCHROTTER.
128 *pp.*, 5⅜ *x* 8, *teen ages* (1959)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
In this book the authors transport the reader back to Newton's own world, to the land that was England three centuries ago. They visit Lincolnshire where Newton was born, Grantham where he spent his school days, and Cambridge where he settled down to concentrated study in science and mathematics. They explain his progress in working on fluxions, astronomy, and gravity; the famous controversy over his paper on optics; his honors—and they include many lively anecdotes involving figures such as Edmund Halley, Christopher Wren, John Hooke, and Charles II. A briskly paced biography that is a warm human study of a great man and gives the young reader a new understanding of the scientific findings of a rare genius.

TANNENBAUM AND STILLMAN—Understanding Food
The Chemistry of Nutrition
By BEULAH TANNENBAUM and MYRA STILLMAN. Illustrated by BERNICE MYERS.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1962)
Regular Edition $3.75*j*
Library Edition $3.26 *net*
This fascinating book is an introduction to the biochemical nature of life. Not only are calories, proteins, minerals, and vitamins discussed at length by the authors, they also explain the chemical reactions by which these foods become a part of us and examine some of the personal implications of this seemingly impersonal science of nutrition. While the book has fun with some of the food fancies of the past, it explodes some modern non-scientific and often dangerous food fads to help young people become more discriminating in their food habits.

TANNENBAUM AND STILLMAN—Understanding Light
The Science of Visible and Invisible Rays
By BEULAH TANNENBAUM and MYRA STILLMAN. Illustrated by GUSTAV SCHROTTER.
144 *pp.*, 5⅜ *x* 8, *teen ages* (1960)
Regular Edition $3.00*jd*
Library Edition $2.96 *net*
Light is the most commonplace thing in our lives and yet the most mysterious as the authors point out in this comprehensive book about light—from man's early fascination to his present day knowledge. The authors of *Understanding Maps*, and *Understanding Time*, define light in a broad sense. *Understanding Light* explains a vast range of material including natural light (sunlight, starlight, moonlight), luminiscence or cold light, ancient theories of light from Pythagoras to the modern Einstein, the eye and its relation to light, artificial sources of light, and future uses in solar batteries, photo-electric cells to mention a few. Black and white drawings are closely integrated with the text and experiments.

TANNENBAUM AND STILLMAN—Understanding Maps
Charting the Land, Sea and Sky
By B. TANNENBAUM and M. STILLMAN. Illustrated by RUS ANDERSON.
160 *pp.*, 5⅜ *x* 8, *ages 10 and up* (1957)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
A science specialist and a social studies expert have combined talents to produce this unusual book on maps. Here is fascinating material on the fundamentals of mapmaking, on the problems of mapping the sea and the sky as well as the land, on many special, exciting types of maps as well as on the basic maps of the world. A book which cuts across the field of geography, science, mathematics and social studies and provides many new graphic experiments for the reader to try. With lots of pictures and diagrams by Rus Anderson.

TANNENBAUM AND STILLMAN—Understanding Time
The Science of Clocks and Calendars
By BEULAH TANNENBAUM and MYRA STILLMAN. Illustrated by WILLIAM D. HAYES.
144 *pp.*, 5⅜ *x* 8, *teen ages* (1958)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
The authors of the well-known *Understanding Maps* have now produced a fascinating new book which covers all the highlights in the history of measuring time. It combines material on the science of clocks and calendars, includes amusing anecdotes and legends related to them, and through many "Now try this" sections, tells the reader how to do interesting experiments. There is astronomy here, a discussion of the problem of establishing a uniform method of measuring time throughout the world, even a consideration of the theory of relativity.

TITUS—Anatole
By EVE TITUS. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅞, *ages 4–8* (1956)..$2.75*jd*
Library Edition $2.84 *net*

Anatole lives in a small mouse village near Paris with his wife and six children and every evening bicycles into the city to find food for his family. Then suddenly he discovers that People do not like Mice and he is most unhappy until he finds a way to pay in service for the cheese he takes from the cheese factory. Boys and girls will be delighted with the clever way in which Anatole becomes a highly respected business mouse and saves his honor.

TITUS—Anatole and The Cat
By EVE TITUS. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅛, *ages 4–8* (1957)
Regular Edition $2.75*j*
Library Edition $2.84 *net*
Anatole's important job in a French cheese factory is the perfect answer to his search for a respectable livelihood, until one terrible night when a cat appears on the scene. Everyone will be fascinated by the ingenious way in which Anatole solves the problem which has baffled centuries of frightened mice before him—how to bell a cat. A witty story with incomparable pictures.

TITUS—Anatole and the Robot
By EVE TITUS. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅛, *ages 4–8* (1960)
Regular Edition $2.50*jd*
Library Edition $2.63 *net*
Anatole has returned—but to danger, when Monsieur Duval of the cheese factory gets the measles. Larue the Inventor is called in to take charge, and he brings a cheese-tasting robot to replace Anatole. But Anatole, Mouse *Magnifique*, proves that nothing—not even a robot—can replace an expert. How Anatole saves the day makes a delightful story—accompanied, of course, by Paul Galdone's gay and colorful drawings—which fans everywhere will enjoy.

TITUS—Anatole Over Paris
By EVE TITUS. Illustrated by PAUL GALDONE.
32 *pp.*, 7⅛ *x* 9⅛, *ages 4–8* (1961)
Regular Edition $2.75*jd*
Library Edition $2.84 *net*
Now Anatole takes to the air. The fact that his flight is uncharted just adds to the suspense. It all begins when Anatole finds a giant kite. Family man that he is, Anatole thinks of the fun that it will bring his six charming children. That it will involve him in his most frightening challenge never occurs to Anatole. For the sudden wind that sends the kite soaring into the sky, also propels the whole family aloft. How Anatole comes flying through will delight all Anatole fans. As always Paul Galdone's pictures are magnifique.

TITUS—Basil of Baker Street
By EVE TITUS. Illustrated by PAUL GALDONE.
98 *pp.*, 6⅛ *x* 8⅛, *ages 8–12* (1958) . $2.95*j*
Library Ed. $2.96 *net*
Introducing Basil! Like his idol, Sherlock Holmes, Basil is also a resident of Baker Street, 221 B—the cellar of Baker Street, 221 B! This account of one of Mousedom's most baffling cases will certainly prove that Basil and his faithful friend, Dr. Dawson, did not sit at the feet (literally) of the great Mr. Holmes without profit. Eve Titus, whose *Anatole* and *Anatole and the Cat* are so well loved, now brings older boys and girls a new hero—diminutive, charming, clever, kind, in a most exciting story complete with mystery, clues, disguises, chases, and a happy ending.

TODD—A B C and 1 2 3
By MARY FIDELIS TODD. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅛, *ages 4–8* (1961) . . $2.95*j*
Every child has been asked a great many times, "What are you going to be when you grow up?" "How far can you count now?" and "Do you know your alphabet?" Mary Fidelis Todd has produced the answers to all three questions in a single book of little verses. The rhythmic verses encourage repetition, and with each chanting a fundamental knowledge becomes part of the boy or girl. And what dreams of glory the careers will evoke—doctors, artists, nurses, umpires, and twenty-two other equally exciting grown-up occupations. The letters and numbers are bold in color and type. Combined with descriptive illustrations by the author, a new and different A B C book emerges—one which parents and teachers will welcome and children will treasure.

TODD—The Juggler of Notre Dame
By MARY FIDELIS TODD. Illustrated by the author.
48 *pp.*, 6 *x* 9, *ages 7–11* (1954) $2.95*j*
A special retelling for boys and girls of the well-loved legend of the juggler who offered to the Blessed Mother the only skill he had. With pictures that recapture the miracle and humor and lesson of this favorite story of generations.

UNITED NATIONS WOMEN'S GUILD—Ride with the Sun
Stories for All the Countries of the United Nations
By the UNITED NATIONS WOMEN'S GUILD. Edited by HAROLD COURLANDER. Illustrated by ROGER DUVOISIN.
296 *pp.*, 5¾ *x* 8, *all ages* (1955) $3.75*jd*
Here is a book which, as its title suggests, rides around the world with the sun. From each of the 60 countries which now make up the United Nations, it presents one representative, well-loved story, which has been chosen and approved by the United Nations Delegation of the nation represented. Harold Courlander, the well-known folklorist, is active as consultant in arranging the stories to make an authentic, varied, and exciting book, and Roger Duvoisin has done the jacket and decorations.

UNWIN—The Way of the Shepherd
A Story of the Twenty-third Psalm
By NORA S. UNWIN. Illustrated by the author.
32 *pp.*, 7⅛ *x* 9⅛, *ages 6–9* (1963) . . . $2.50*jd*
Library Ed. $2.63 *net*
The beauty of the Twenty-third Psalm itself shines through this delightful story within a story as Azor follows the old shepherd into a strange, new world, and, as the day progresses, finally finds assurance in the comfort of the psalm and the shepherd's strength and kindness.

VORWALD AND CLARK—Computers!
From Sand Table to Electronic Brain
By ALAN VORWALD and FRANK CLARK. Illustrated by FRANK ALOISE.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1961) . . $3.50*jd*

Beginning with a history of numbers and number systems, this book explains how they have been used in computers through the ages. The authors tell their story from finger counting to the first computing devices such as the sand table and abacus. They then discuss automata and desk computers, punch cards and electronic computers. Throughout the book there are instructions on how to build the various kinds of computers, including an electric five column binary computer.

WALDEN—My Sister Mike
By AMELIA ELIZABETH WALDEN.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1956)...$3.00*jd*
A book which combines sports and romance. The story of a tall, lanky, plain-looking girl, who was a whizz at basketball, but socially shy and inept. Then Jeff Parker, on an initiation dare from the exclusive VIP club, walks into her life. How Mike has the courage to look at herself honestly and to accept that strange date as a challenge makes a book teen-age girls will read with feeling and recognition. There are exciting dances and parties and many good descriptions of basketball games.

WALDEN—Three Loves Has Sandy
By AMELIA ELIZABETH WALDEN.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1955)..$2.75*jd*
A new Amelia Walden book which will be received with delight by all her fans. The story of a girl who knew a lot about softball and very little about boys, a boy who knew a lot about horses and very little about girls, and a horse they both loved. A book which catches perfectly all the color of high school life, classes, dances, softball, and in addition tells the story of a girl who grew from a noisy, exuberant girl into a poised young woman.

WALDEN—So Near the Heart
By AMELIA ELIZABETH WALDEN.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1962)..$3.75*jd*
With graduation from Carnegie Tech in back of her, Miranda Welsh had looked forward to working with Webb in her first role in the professional theatre. In New York, however, Webb tells her that his plans have changed. It is a rejected Miranda who arrives in Stratford anxious to forget her troubles in her work. In Stratford there is David Dawson, dedicated to the belief that the director's interpretation is always right, and there is Frank Waring, a mature experienced, creative actor and Miranda finds herself caught between the two men, director and actor, in the middle of the struggle to establish an American Shakespeare tradition.

WALDEN—When Love Speaks
By AMELIA ELIZABETH WALDEN.
192 *pp.*, 5⅜ *x* 8, *teen ages* (1961)....$3.50*j*
This is the story of a young girl's first taste of professional theatre. Miranda, the heroine, arrives at the American Shakespeare Festival in Stratford, Connecticut as an apprentice. She comes equipped with a love of the stage, a fine knowledge of Shakespeare, and an unrealistic view of the theatre. At the end of the season, Miranda has grown considerably as an actress but more important as a human being. The author has written a book filled with real, honestly drawn characters, good, sound advice for the prospective actor, and an absorbing atmosphere charged with excitement which is the theatre.

WHITCOMB—Strictly for Secretaries
By HELEN and JOHN WHITCOMB. Illustrated by GILL FOX.
160 *pp.*, 5⅜ *x* 8, *teen ages* (1957)..$3.00*jd*
A book for the young secretary or for the high-school student who plans to be a secretary—written in a light and gay style, but full of valuable information. Material on how to apply for a job, business manners and grooming, getting on with business associates, office personalities, techniques and problems, how to prepare for promotion, etc. The authors, one a former editor of the Gregg magazine, *Today's Secretary*, and the other a regular contributor to the magazine, have included case histories and anecdotes that will appeal to teenagers. With many amusing line drawings by Gill Fox.

WILLIAMS AND ABRASHKIN—Danny Dunn and the Anti-gravity Paint
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by JACK KEATS.
128 *pp.*, 5⅜ *x* 8, *ages 8–12* (1956)..$2.95*jd*
An exciting new book of science fun over which children will laugh as they learn. They will take to their hearts a new hero, Danny Dunn, and his friend Joe, his understanding mother, and their wonderful friend, Professor Bull, who realizes he has discovered an anti-gravity paint when he steps in the mixture and finds himself hanging from the ceiling. The Professor's marvelous discovery begins a series of adventures which take him and Danny into outer space and prove that Danny's teacher miscalculated seriously when she told Danny that space travel was a hundred years away.

WILLIAMS AND ABRASHKIN—Danny Dunn and the Fossil Cave
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by BRINTON TURKLE.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1961)..$2.95*jd*
This time Danny Dunn starts everything off by stumbling on the entrance to a cave. Then a visit from Dr. Tresselt, the geologist, coincides with the completion of the C-Ray machine, Professor Bullfinch's latest invention. The machine can see through rocks and Danny is ready for action. What follows is typically "Danny" adventure packed with fun, turbulence and science.

WILLIAMS AND ABRASHKIN—Danny Dunn and the Heat Ray
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by OWEN KAMPEN.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1962)..$2.95*jd*
Keeping pace with modern-day science, Danny's newest and most exciting adventure centers around a *laser*, a recent development in the field of light. His curiosity kindled, he sets out to find a way of using the laser with "Snitcher" Phillips along for aggravation, Irene Miller for glamour, and Joe to forecast, poetically, "problems ahead."

WILLIAMS AND ABRASHKIN—Danny Dunn and the Homework Machine
By JAY WILLIAMS and RAYMOND ABRASKIN. Illustrated by EZRA JACK KEATS.
128 *pp.*, 5⅜ *x* 8, *ages 8–12* (1958)..$2.95*jd*
More adventures with Danny Dunn and his good friend, Joe, and their new friend Irene. Professor Bullfinch tries to interest Danny in a new computer which operates somewhat like the recently invented cryotron. When Danny gets the bright idea of using the machine for doing homework, he finds himself involved in

the kind of trouble that might be expected in the third hilarious story of a boy who often rues his actions because he jumps too easily to conclusions.

WILLIAMS AND ABRASHKIN—Danny Dunn, Time Traveler
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by OWEN KAMPEN.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1963)..$2.95*jd*
Professor Bullfinch succeeds in inventing a time machine, and warns that the test is going to be dangerous. With Danny and his friends Irene and Joe whirling into the "possible past," his many fans will find this new science adventure pure fun.

WILLIAMS AND ABRASHKIN—Danny Dunn and the Weather Machine
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by EZRA JACK KEATS.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1959)..$2.95*jd*
Who said nobody does anything about the weather? Danny Dunn does! Of course if there hadn't been a drought when Danny went to the weather bureau to return a radiosonde, maybe *nothing* would have happened. Danny is naturally attracted to all the weather-forecasting instruments and decides to do some volunteer weather observing. And when Danny and his friends Jo and Irene discover that Professor Bullfinch has a new ionic transmitter that makes little clouds and miniature rainstorms, they are in a new business. A very amusing story, but one from which young readers can learn much science if they can stop laughing long enough!

WILLIAMS AND ABRASHKIN—Danny Dunn on a Desert Island
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by EZRA JACK KEATS.
160 *pp.*, 5⅜ *x* 8, *ages 8–12* (1957)..$2.95*jd*
More adventures of Danny Dunn and his friend Joe—this time the boys are part of Professor Bullfinch's and Dr. Grimes' experiment in living on a desert island. While the two men are deep in their work of discovering how to make a living with only the most elementary tools, Danny and Joe make a few discoveries of their own—mainly that the island is not entirely deserted. A highly amusing but at the same time informative book with lots of fascinating scientific and sociological facts.

WILLIAMS AND ABRASHKIN—Danny Dunn on the Ocean Floor
By JAY WILLIAMS and RAYMOND ABRASHKIN. Illustrated by BRINTON TURKLE.
144 *pp.*, 5⅜ *x* 8, *ages 8–12* (1960)...$2.95*j*
When Danny Dunn becomes fascinated with the fact that fish make sounds and start to record them, it's the beginning of an exciting new adventure for Danny, the Professor and, of course, Joe. Professor Bullfinch's experiments with a tough plastic, the visit of Dr. Grimes who wants to interest the Professor in undersea exploration culminate in the *Sea Urchin*, a mobile undersea laboratory for exploring the ocean bottom. Like all the earlier Danny Dunn adventures, this new story is a wonderful combination of fun and science adventure and includes fascinating material on the wonders of undersea life.

WINSTON—Hand in Hand
Book Adapted from the Helen Winston Production, HAND IN HAND
48 *pp.*, 8½ *x* 11, *all ages* (1961)....$2.75*jd*
Adapted from the prize-winning motion picture, this is the story of Michael, an adventuresome nine-year-old, and Rachel, only eight, who become firm friends. When they run into barriers that society has set up between their faiths, they decide to find out whether their friendship is powerful over all. Although it is forbidden, each will attend the other's house of worship. Will God strike them down? How Michael and Rachel meet their tests make a tender, but always exciting and entertaining story.

WYATT—Cochise
Apache Warrior and Statesman
By EDGAR WYATT. Illustrated by ALLAN HOUSER.
192 *pp.*, 5½ *x* 8, *ages 9–13* (1953)
Regular Edition $3.00*j*
Library Edition $2.96 *net*
A companion biography to the author's powerful *Geronimo*. Perhaps the greatest Apache of them all, Cochise was a proud and thoughtful statesman, beloved by his people and respected by the white men who really knew him. He sought peace, but he was a dreaded warrior when forced to lead his people in wars against the white man. Dramatic action drawings by the distinguished Apache artist, Allan Houser, who is himself a descendant of Geronimo.

WYATT—Geronimo
The Last Apache War Chief
By EDGAR WYATT. Illustrated by ALLAN HOUSER.
192 *pp.*, 5½ *x* 8, *ages 6–12* (1952)
Regular Edition $2.95*j*
Library Edition $2.96 *net*
The thrilling biography of the great Apache who, to the white man, was the fiercest and cruelest of them all, but who, in his own mind, was a patriot, defending the land of his people. His war path led him into a hundred desert raids and battles. When it ended, the Indian wars in America ended forever. With 40 line drawings by Geronimo's great-grandson, Allan Houser.

WYLER AND AMES—What Makes It Go?
By ROSE WYLER and GERALD AMES.
65 *pp.*, 6⅝ *x* 9¾, *ages 8–12* (1958)..$2.75*j*
A simple book about transportation machines from roller skates to rockets complete with information on what makes them go. The easy-to-read text and clear illustrations describe the workings of the many machines young readers use or see in operation—tricycles, bicycles, cars, trucks, trains, sailboats, etc. The experiments which accompany these descriptions will enable readers to grasp the basic principles involved. All the materials needed for the experiments can be found in any home.

ZAHN—Jemal of the Hill Country
By MURIEL ZAHN. Illustrated by P. A. HUTCHINSON.
160 *pp.*, 5⅜ *x* 8, *ages 10–14* (1962).$2.95*jd*
The story of Jemal, a young Israelite, in the times of Augustus Caesar and of his search for an older brother who is involved in a rebellion against the Romans and is taken away as a slave. A friendship between Jemal and a Roman boy adds another element to the plot which is heightened throughout by glimpses of a boy from Nazareth who was in Jemal's class, and of intimations of the coming of Christ.

ZINGER AND WINDMULLER—The Little Donkey

By OLEG ZINGER and ILSE WINDMULLER. Adapted by FRANCES FROST.

32 *pp.*, 11 *x* 8¼6, *ages 4–8* (1959)...$2.50*jd*

This is a lively retelling of a colorful, German picture book about Jo-Jo, a little donkey that young German readers loved. Jo-Jo had only a week in which to prove to the farmer that he could be useful. With the help of Hans and Trudi, the farmer's children, he learns not to frighten the cows, chase the chickens, play with the little pigs, or the colt and finds a special, important job that only a little donkey can do. With Oleg Zinger's charming full-color pictures to illustrate this captivating story, Jo-Jo will win many more friends in America.

CHILDREN'S WORLD OF SCIENCE LIBRARY $15.95*t*

Bendick—How Much and How Many
Hyde—Flight Today and Tomorrow
Schneider—Everyday Weather and How It Works
Schneider—Everyday Machines and How They Work
Schneider—Science Fun with Milk Cartons
Schwartz—Through the Magnifying Glass
Schwartz—It's Fun to Know Why

PAPERBACK SCIENCE LIBRARY $4.50*pb*

Barr—Research Ideas for Young Scientists, Paperback Edition
Bendick—Electronics for Young People, Paperback Edition
Hyde—Atoms Today and Tomorrow, Paperback Edition
Schneider—Everyday Weather and How It Works, Paperback Edition
Schwartz—It's Fun to Know Why, Paperback Edition

Narratives and Adventure Stories

BOCCA—Bikini Coast

By GEOFFREY BOCCA.

228 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*

A gay, lively and thoroughly scandalous book, *Bikini Coast* is the story of the Riviera, and of the great, near-great and others in a diverting assortment—who have enlivened its glamorous shores from the time of Queen Victoria. Mr. Bocca tells highly entertaining tales of intrigue behind the locked doors of royalty and scoundrels, of the multi-millionaires and paupers who flock to the Riviera and the dazzling amusements it promises, and delivers, every season. They are all here, the rulers and exiled rulers, the movie stars and the would-be stars, the gamblers, the *femmes du monde*, the socialites and the gangsters in their extravagant and often hilarious quest for fun, and for each other. Geoffrey Bocca is the author of *Kings Without Thrones. The Life and Death of Sir Harry Oakes*, and *The Woman Who Would Be Queen.*

BURMAN—It's a Big Continent

Adventures Across Unknown North America

By BEN LUCIEN BURMAN.

238 *pp.*, 5 *x* 8 (1961).....$4.95*td*

When Ben Lucien Burman's *It's a Big Country* appeared, one critic summed up the verdict of the reviewers by declaring, "Not since Mark Twain has there been a book like this." Now, in *It's a Big Continent*, Mr. Burman has written a book even more fascinating and far wider in scope, ranging from the Guatemalan border of Mexico to the Arctic regions near the North Pole. In this superb volume of personal adventures and exploration, written with the excitement and color of a novel, the author lets us share the extraordinary lives of inhabitants in the remote regions of the North American continents—as mysterious and unknown to the average American as the jungles of Equatorial Africa. Famous for his *Steamboat Round the Bend* and his Catfish Bend books, Ben Lucien Burman's works have been translated into many languages, and his recent novel, *The Street of the Laughing Camel* will soon be made into a Broadway musical.

CAMERON—Hungry Tiger

The Story of the Flying Tiger Line

By FRANK CAMERON.

In Press

Here is the whole colorful history of the American Volunteer Group as it began to develop before World War II, becoming the famed Flying Tigers, and then the great post-war Flying Tiger Cargo Line. Whether transporting flowers, refugees, or race horses and exotic animals, the Flying Tigers have always distinguished themselves by courage and an adventurous dash and flair that still exists within the company today. Almost informal in its original organization, the exuberant Flying Tigers grew quickly and successfully, if not always smoothly, into a major and most unusual airline.

CARR—John D. Rockefeller's Secret Weapon

By ROBERT CARR.

380 *pp.*, 5⅝ *x* 8⅜ (1962).....$6.95*t*

This dramatic account of John D. Rockefeller's strategy in building his vast fortune is not only a thoroughly documented account of one of the most fascinating incidents in American business history, but a record of the unprecedented legal and commercial problems that confronted his bold venture. Mr. Carr says, in reference to Rockefeller's creation of the Standard Oil Trust, "Like all of his most successful moves, it was not an innovation imposed in the expectation of profit. Rather it was an imaginative adaption . . . a purely defensive move. The simple and fundamental principle on which he built Standard's success —to control the market for oil by controlling its transportation—never changed." All of Rockefeller's famous financial manipulations are here—the Trust, the battle over transportation and tanks, and the solution in the Union Tank Company.

CARTER—The Doomed Road of Empire

By HODDING CARTER.

532 *pp.*, 6 *x* 9, *illus.* (1963).....$8.95*td*

The Spanish Trail, known more romantically in the past as the Royal Road—Camino Real —was one of the principal routes for the Spanish troops when menaced by English and French competition for gold and colonies. Many roads were called the Royal Road, and Mr. Carter writes of the lesser known but true Camino Real originally a route between New Spain (Mexico) and Natchitoches, Louisiana. Mr. Carter tells its dramatic story in terms of the men and women who created it—some forgotten, and others who wrote our history.

CROMIE—The Great Chicago Fire
By ROBERT A. CROMIE.
McG-H Paperbacks Ed. In Press
A veteran reporter's action-packed account of the phenomenal fire of 1871. Here's all the grim tragedy, the roaring excitement, the heroism and folly of one of the great disasters in American history—a fire that burned for two days, destroying millions of dollars in property and leaving 100,000 homeless. Mr. Cromie, reporter for the *Chicago Tribune* sifts fact from legend in his vivid, hour-by-hour account of the famous blaze that began in Mrs. O'Leary's barn. The Great Chicago Fire has long been a part of American folklore, and now, in the colorful, fast-moving pages of Robert Cromie's book, it becomes a memorable reading experience.

DALAI LAMA—My Land and My People
By HIS HOLINESS, the DALAI LAMA OF TIBET.
272 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962)....$5.95*td*
In one of the most heart-breaking documents ever published, His Holiness, the Fourteenth Dalai Lama of Tibet, relates the story of his brief reign before the brutal humiliation and systematic murder of his people by the Chinese communists. A civilized, restrained man and a sincere reformer, he tells of the simple Tibetan life into which he was born, and of the devout people among whom he was discovered and declared the Dalai Lama, according to age-old customs and the visions of Holy Men. When the Red Army moved inexorably toward the destruction of Tibet, the wholesale massacre became so widespread, the Dalai Lama fled to India, prompting an international commission to make a study of the situation. The horror of their findings is told in this chilling book by a man with no interest in power, and whose only concern is for his people, and their right to live in peace.

DANIELS—The Devil's Backbone
The Story of the Natchez Trace
By JONATHAN DANIELS.
320 *pp.*, 6 *x* 9, *illus.* (1962).....$6.95*td*
The Natchez Trace has as dark and bloody a history as any thoroughfare since the beginning of our nation. When the flat boats sailed down the Mississippi to New Orleans, their crews and traders had to get back by land. The Trace began that way, and ran from New Orleans through Natchez and eventually on to Nashville. From the very beginning, along it marched pioneers, as well as ladies and gentlemen, the doomed, and the men of destiny, politicians and soldiers. Jefferson travelled it, and Aaron Burr, Andrew Jackson, Meriweather Lewis, and Lincoln. The history of the Trace is far more exciting than any work of fiction that might be written about it, and the author has traveled it from one end to the other for this superb account. Jonathan Daniels, editor of the Raleigh *New and Observer* and son of the famous statesman and diplomat Josephus Daniels, is the author of *Frontier on the Potomac, Man of Independence, The End of Innocence*, and many other books.

DONOVAN—PT-109
John F. Kennedy in World War II
By ROBERT J. DONOVAN.
248 *pp.*, 5⅝ *x* 8⅜, *photos* (1961)..$4.95*td*
One August night in 1943 off the Solomons, a Japanese destroyer loomed out of the blackness, and before the skipper of PT boat 109, John F. Kennedy, could change the direction of his own craft, the larger vessel had cut clear through it. Two of Kennedy's eleven-man crew were never found, but the other nine, some of them terribly burned and injured, clung to the stern half of the PT boat, which remained afloat until daybreak. Kennedy, an expert swimmer, led the men on a four-mile swim to the nearest reef, towing one of the seriously wounded by clenching the strap of the man's life preserver in his teeth. There followed four days of pain, fear, hunger, thirst, prayer, and heroism. The men hid by day, and at night Kennedy swam to various islands looking for friendly natives, his feet severely cut by coral, and his mind dimmed with strain, exhaustion, and shock by the time rescue came. This is only one of President Kennedy's heroic war experiences. Later, in PT-59, he ran beneath heavy Japanese guns to rescue a Marine battalion in a minor Dunkirk, fully aware that he did not have enough gas to return to his base. There are no other authorized versions of these incidents. The author has been given Navy records by the President's direction, as well as many personal papers and interviews.

DRURY—A Senate Journal, 1943–1945
By ALLEN DRURY.
400 *pp.*, 5⅝ *x* 8⅜ (1963).....$7.95*td*
Allen Drury worked as a United Press correspondent covering the United States Senate from November, 1943 to July, 1945—one of the most vitally important eras in American life politically, socially, and militarily. In this illuminating journal, he portrays those momentous years through the medium of the Senate, giving new insight and superb eye-witness impressions of the great events and personalities that are now part of the nation's heritage. Running as it does from the soldier-vote fight, through D Day, the death of Franklin D. Roosevelt and the ascension of Harry Truman, to the United Nations Charter debate and ratification, Mr. Drury's journal tells of the work and experiences of men who were behind the great events changing the world.

GEHMAN—Let My Heart Be Broken
The Story of World Vision and Dr. Bob Pierce
By RICHARD GEHMAN.
235 *pp.*, 5⅝ *x* 3⅜, *illus.* (1960)....$4.95*td*
This splendid book is a result of a visit taken by Dr. Bob Pierce, head of World Vision, Inc., the author, and Richard Reinhold, a photographer, to missionaries, hospitals, and churches, in Japan, Korea, Formosa, Hong Kong, and India. It tells of the great work being done by the World Vision people, and the moving human-interest stories in the sanitoriums, leprosariums, and clinics that Reverend Pierce's interdenominational organization has helped establish and maintain. The book also tells of the appalling needs for help in many more countries where the red tape of diplomacy often hinders the practical efforts of missionaries who are feeding and clothing the vast swarms of sick, needy people, and bringing them the Word of Christ. Photographs.

GRISWOLD—A Work of Giants
By WESLEY S. GRISWOLD.
320 *pp.*, 6 *x* 9, *illus.* (1962).....$6.95*td*
This profusely illustrated and richly detailed story of the first American transcontinental railroad tells the great saga of the Union Pacific Railroad and the rival Central Pacific Railroad as they bridged two-thirds of North

America. Both companies shared the responsibility for the cross-country line—the Union Pacific pushing westward from Omaha, and the Central Pacific starting from Sacramento toward the unknown point where they would meet. The tremendous task of spanning the vast lands, of financing and equipping so immense and unprecedented a venture, and the harsh demands made on everyone concerned are described by Wesley Griswold in this vivid, dramatic account. Step by step, the author follows the great bands of workers as they start out, illustrating his story with rare photographs that have been treasured for a century and carefully selected for *A Work of Giants.*

HOLBROOK—The Old Post Road
By Stewart Holbrook.
320 *pp.*, 6 *x* 9 (1962).....$6.95*td*
"One might think of The Old Post Road," says author Holbrook of the earliest route between New York and Boston, "as the first link in the three-thousand-mile chain of trails and roads that were at last to reach the shore of the Pacific, the Great South Sea itself, where the waves were coming in from China." And in this superb exploration, filled with anecdotes and historical personalities who traveled, and quite literally created the road, Mr. Holbrook tells the full story of the three routes that were to become the single Post Road, describing its importance from the days of stage coaches and wayside taverns to the ranch houses and split-level invasion of the present time. Town by town, he takes the reader over the old routes, identifying them as they are today, showing how they were, and in fascinating detail explaining the early links to the West and ultimately to the entire nation. Stewart Holbrook, a well known writer on American historical figures and events, is the author of *Lost Men of American History, The Age of the Moguls, The Yankee Exodus,* and *The Story of American Railroads.*

HOWARTH—D Day
By David Howarth.
250 *pp.*, 5⅜ *x* 8⅜, *illus.* (1959)....$5.50*td*
For the first time, here is a detailed, action-filled account of the most immense and spectacular military operation of modern times—Operation Overlord, the combined Allied invasion of France. The book covers the 24-hour period from 0100 6 June, 1944, to the early morning hours of 7 June, from the first savage air attacks on the German coastal defenses through all the terrifying uncertainty of the landings, ending with the Allied beachhead securely established. Panoramic and yet crowded with fascinating detail and revealing individual personalities and anecdotes, David Howarth's *D Day* offers a view of the invasion that no one present on the scene could have had, not even the commanders-in-chief.

KLABEN—Hey, I'm Alive!
By H. Klaben and B. Day.
256 *pp.*, 5⅜ *x* 8, *illus.* (1963).....$4.95*td*
Here is the whole incredible story of a young Brooklyn girl's escape from death when the small airplane on which she was a passenger crashed in the Canadian Yukon last January. The completely unexpected survival and rescue of Miss Klaben and her pilot made headlines around the world when, after 49 days of weather constantly near 40 degrees below zero, the two were discovered by a local bush pilot. This engrossing book describes what the long days of hunger, privation, and hope meant to them—of the deeply inspirational experience the 49 days became, and of the practical lessons in survival that they learned.

KNOWLES—The Greatest Gamblers
By Ruth Sheldon Knowles.
288 *pp.*, 5⅝ *x* 8⅛ (1959).....$6.50*td*
A leading oil authority and journalist has written this readable history of the fascinating and adventurous business that is American oil. The book takes American petroleum from its beginnings in 1859 at Titusville, Pennsylvania to the titanic oil operations of the 1950's. Prominent in the book are the colorful and fantastic personalities of the industry—men like Harry Lucas, Tom Slick, Harry Sinclair, John Paul Getty, Clint Murchison and H. L. Hunt.

LANSING—Endurance
By Alfred Lansing.
283 *pp.*, 5⅝ *x* 8⅜, *illus.* (1959)....$5.95*td*
Here is a vivid and dramatic account of one of the most extraordinary adventures in maritime history—the escape of Ernest Shackleton and his men from the sinking "Endurance," when the ship was icebound in an Antarctic sea in 1915. Alfred Lansing interviewed all the survivors who are still alive, and had access to nine diaries kept during the escape. The result is the most accurate and thrilling report ever written of this fantastic ordeal.

LAUGHTON—The Fabulous Country
By Charles Laughton.
288 *pp.*, 5⅝ *x* 8⅜ (1962).....$6.50*td*
As entertaining and original as Charles Laughton himself, this anthology of stories he has loved for their evocative, colorful descriptions of American life and the American scene will take every reader by surprise. Section by section, he tours the country, showing how the various regions looked through the eyes of some most unexpected writers—Mark Twain, Jack London, Henry David Thoreau, Charles Dickens, Thomas Wolfe, Sinclair Lewis, Gertrude Stein, Christopher Isherwood, Truman Capote, and many others. To their stories, poems, or articles, Mr. Laughton has added introductions and his own personal comments, which are always delightful, and all the more astonishing for American readers who may find they are less familiar with their own land than our distinguished and welcome visitor.

LEASOR—The Plague and the Fire
By James Leasor.
280 *pp.*, 5⅝ *x* 8⅜ (1961).....$5.95*td**
This magnificent panorama, based on documents never before collected, tells of London's great plague in 1665 and the fire that leveled the city a year later. Mr. Leasor tells how the plague came to London, of the first indifference and futile superstitions among the people, and of the vast surge of inhumanity that spread through the city. He also writes of the courage and dedication of a few individuals, including the heroic ride of Charles II through blazing streets to help laborers and soldiers demolish houses in the path of the fire. No single book dealing with all aspects of the two events in their full historical significance and abject horror has been written in the three centuries that have since passed.

* *Including Canada.*

LEASOR—The Uninvited Envoy
By JAMES LEASOR.
288 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.95*td*
Beginning with the moment that Rudolph Hess bailed out of a plane over Scotland, THE UNINVITED ENVOY recounts one of the most baffling stories of World War II. Despite his claims of a secret peace mission, Hess was taken to a guardroom the first night. From that point, a mystery of international proportions developed around him, gradually involving Allied and Axis leaders alike in what Churchill termed "a completely devoted and fanatic deed of lunatic benevolence." James Leasor tells the whole story here, of Hess's reasons and hopes for the flight, the first reports of his death, the censorship, and avowals of his madness as Hitler, Ribbentrop, Mussolini, Stalin, and Hess family, Beaverbrook, and Churchill were finally concerned with the bizarre intrigue, which continues today in its strange aftermath.

McADOO—The Priceless Gift
The Love Letters of Woodrow Wilson and Ellen Axon Wilson
By ELEANOR WILSON MCADOO.
400 *pp.*, 6 *x* 9 (1962).....$6.95*td*
In drawing on some fourteen hundred letters exchanged by her parents, the daughter of Ellen and Woodrow Wilson makes public one of the most moving, ardently intense, and unselfconscious correspondences ever maintained. During their two-year engagement and almost thirty years of marriage, the Wilsons were never separated for more than a day without writing to each other, and Mrs. McAdoo, as the only living relative of the immediate family, decided after long and difficult deliberation to publish the collection. It was a decision to be applauded, for the treasured confidences should not be denied the reader today, since they are so closely tied to the richness of the American past. They reveal an aspect of Wilson's character which neither the outside world nor his closest friends had realized, and the collection is more than reminiscent of the love letters of the Brownings. Binding the letters and excerpts of letters together is Mrs. McAdoo's faithful narrative, describing a man the world never entirely understood, and the profound influences of his wife on his thoughts and great accomplishments. Mrs. McAdoo's writing is completely objective, taking place of voluminous footnotes that would otherwise be needed. It is the letters themselves that tell this magnificent story. Foreword by Raymond Fosdick.

MERRILL—Bears in My Kitchen
By MARGARET MERRILL.
256 *pp.*, 5⅜ *x* 8 (1956).....$4.50*td*
The warmhearted, funny, and exciting story of a Chicago girl who scarcely dreamed what she was letting herself in for when she married Bill Merrill, a U.S. Ranger, and how she adapted herself—and soon came to love their life in the wilds of various U.S. parks in the West and Northwest. The book, like its author's life, is full of fun and excitement—the first camping trip with her husband when everything went wrong; collecting a menagerie of animals wherever they lived; and maintaining a household with only the bare necessities of life. The vividness of her life and the freshness which Margaret Merrill imparts to her story make *Bears in My Kitchen* a book about a truly happy marriage that has at the same time all the adventure and excitement of a frontier tale.

RIESENBERG—The Golden Road
The Story of California's Spanish Mission Trail
By FELIX RIESENBERG, JR.
320 *pp.*, 6 *x* 9, *maps* (1962).....$6.95*td*
The California Mission Trail between San Diego and the shores of upper San Francisco Bay was a route ultimately defined by later extensions southward into Mexico and north through the "Redwood Empire" to the Oregon border. From sixteenth-century migrating tribes who followed animal paths, to the Spanish troops occupying it 200 years later, when Russian forces in Alaska threatened to seize the territory, Mr. Riesenberg's book is a detailed excursion along the great El Camino Real—The King's Highway. He tells the early history of the trail, describing the missionaries, the first traders out of New England, the gold rush, the highwaymen, and the land grabbers, as the railroads, then the automobile, and the tourists arrived—all leaving their distinctive mark on the trail. This study of an all but lost route is a breathtaking adventure not only along a royal highway, but also through history itself.

ROGERS—The Floating Revolution
The Inside Story of the Santa Maria
By WARREN ROGERS, JR.
224 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962).....$4.95*td*
A swiftly paced book on the hijacking of the *Santa Maria*, this is the whole story of an incident that touched the public imagination as no event has in years. Warren Rogers, working from his vantage point as a *New York Herald Tribune* reporter, is able to give a dramatic and completely factual account of the scene on board, and delve behind the surface drama for political realities that led to the seizure of the ship by the Portuguese rebel Galvao. In probing the bizarre story, which shifted from Caracas to Lisbon to Angola, Rogers tells how the plot to capture the *Santa Maria* developed, and he portrays the men involved in the conflict—Galvao, Delgado, and Salazar—against a background of Portugal's troubles. He tells of the behavior of Galvao's men, of the passengers, and of the Americans who saved the crew by insisting that they too be allowed the land at Recife. He describes the moments of fear, of courage, of high comedy and sudden tragedy, all told in the reports of a top newsman who was at the scene.

RUSSELL—Tragedy in Dedham
The Story of the Sacco-Vanzetti Case
By FRANCIS RUSSELL.
419 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962).....$7.95*td*
The case of Nicola Sacco and Bartolomeo Vanzetti began with their prosecution for the killing of two payroll guards. Over the years of their appeals, the two obscure anarchists became world figures. Their execution in 1927 still haunts our conscience. What really happened? How and why did this robbery-murder in South Braintree, Massachusetts, become an international issue that still stirs passions? Were two innocent men executed, as many have maintained? Francis Russell comes to a conclusion, solidly backed by evidence, that will astonish and shock the world. He tells the whole extraordinary story with a wealth of material that has never before

appeared in print. Francis Russell is the author of *Three Studies in 20th-Century Obscurity*, dealing with Kafka, Joyce, and Stein.

SHOR—After You, Marco Polo
By JEAN BOWIE SHOR.
320 *pp.*, 5⅛ *x* 8, *illus.* (1955).....$5.95*td*
A fascinating travel adventure of a young American couple who followed the seven century-old trail of Marco Polo from Venice to Peiping. The route lay in a no man's land along the boundaries of Turkey, Iran, Russia, Afghanistan, Pakistan, and China. Journeying by ancient bus, by horse, by yak, and on foot, they visited strange lands and peoples that few Westerners have ever seen. Written with humor, warmth, and sensitivity, this superior travelogue is crammed with vivid detail and dramatic contrasts.

SINGLETARY—Negro Militia and Reconstruction
By OTIS SINGLETARY.
181 *pp.*, 5⅝ *x* 8 (University of Texas Press, 1957; Mc-G-H Paperbacks Ed. 1963) $1.95*pb*
An account of the enlistment of Negroes in the state militias by various Reconstruction governments, the personnel and organizational problem that arose, and the reasons for the course pursued.

SPENCE—Portrait in Oil
How Ohio Oil Grew to Become Marathon
By HARTZELL SPENCE.
336 *pp.*, 5⅝ *x* 8⅜, *illus.* (1962).....$5.95*t*
This vividly written story of the Ohio Oil Company as it developed into the big vital corporation it is today—the Marathon Oil Company—is an account of a large corporation's impact on a free society, a dramatic story of the company's present and future as well as past, as seen through the eyes of an outstanding writer. In writing of Marathon, Mr. Spence has been given complete liberty, and he tells the story in terms of the inherent drama of problems faced and overcome and the human relationships on which the company is based. His book abounds in human interest and the warmth and vitality that made the author's previous books so successful. Mr. Spence not only takes a realistic view of the company's executives and their work, he describes company operations and organization and illuminates company activities as well. The book will draw the attention of business and financial leaders, economic historians, and others in the petroleum industry.

STERN—Europe
Or Up and Down with Schreiber and Baggish
By RICHARD G. STERN.
212 *pp.*, 5⅜ *x* 8 (1961).....$4.95*td*
Richard Stern has written a wonderfully funny but realistic and essentially sympathetic book about Americans who flee to Europe for various personal reasons, there to ricochet off each other and a wide variety of fellow innocents and not-so-innocents abroad. Lusting after "experience," three young men are hilariously and unpredictably successful in their conquests—amatory and otherwise—and in losing their illusions, their inhibitions, and their shirts, they encounter along the way the most imaginative, fresh, and alive collection of characters in the annals of expatriate adventures.

STEWART—The California Trail
By GEORGE R. STEWART.
300 *pp.*, 6 *x* 9 (1962).....$6.95*td*
The California Trail was opened in 1844 by wagons passing from the East to central California, Sutter's Fort and the gold regions. Never a simple, definite road, it grew from earlier horse trails and paths, relocated almost yearly by travelers and undergoing constant changes that in themselves offer fascinating studies of the people and their reasons for crossing the country. Mr. Stewart's year-by-year chronicle, from the establishment of the trail to the coming of the railway roads, tells the even greater story of the covered wagon in our history, and the emigrations that were a prelude to the exuberant drama that followed. Maps. George R. Stewart is a professor, novelist, and well-known writer of nonfiction. He is also author of many academic and scholarly works and several plays.

STUART—God's Oddling
The Story of Mitch Stuart, My Father
By JESSE STUART.
266 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.95*t*
A famous author's warm and proud recollections of a father he loved, Jesse Stuart's delightful and moving narrative is about a man unable to read or write, but "an educated man," a father as big in heart as he was in spirit. Earthy and often humorous, *God's Oddling* begins when young Jesse's family was living in a one-room shack at the lip of a coal mine. With the fondest affection, Mr. Stuart tells how the family lived, how the children grew up and had educations—his father's dream for them. Some of the most beautiful passages deal with the father's love of trees, crops, and animals, and the book ends with the author recalling a family life that has begun to vanish from the American scene, and a way of life that is gone.

STUART—The Year of My Rebirth
By JESSE STUART.
350 *pp.*, 5⅝ *x* 8¾ (1956).....$5.50*td*
Jesse Stuart, much-loved Kentucky novelist, poet, and story writer and man of enormous energies, here tells the story of his near-fatal heart attack, and his struggle back to life. Here are the thoughts and moods of a man whose heart may give out at any moment, the new respect and even love he develops for his heart, his thoughts about God, life, eternity, and home. Stuart describes the fast pace of his life before the attack, the attack itself, and waking up under an oxygen tent. As he began to write this journal, slowly and painfully at first, he turned to an early love for solace—nature. In his description of these pastoral scenes, the people who visit him, his thoughts of the past, there arises the inspirational story of man's search for himself.

SULLIVAN—Quest for a Continent
By WALTER SULLIVAN.
372 *pp.*, 5⅝ *x* 8⅜, 37 *illus.* (1957)...$5.95*t*
*McG-H Paperbacks Ed.**
Here is the first authoritative account of the last four American expeditions to Antarctica, including the current Operation Deepfreeze. Reports of these expeditions have only recently been released by the armed forces. The author has captured all the adventure, danger, and disaster of these expeditions, along with

the excitement of the discovery of mountains that may be higher than any of the Alps, valleys completely free of snow and ice within a few hundred miles of the Pole.

** Available only through your local bookstore.*

THOMAS—Sir Hubert Wilkins
His World of Adventure
By LOWELL THOMAS.
296 *pp.*, 5⅝ *x* 8⅜, *illus.* (1961)....$5.95*td*

In this epic life of one of the foremost explorers in the modern era, Lowell Thomas tells the story of a dedicated and restlessly adventuresome man, from his Australian "out back" boyhood seventy years ago to the March day in 1959 when Commander James Calvert surfaced an atomic submarine at the North Pole, there to scatter the ashes of the great explorer in a final tribute shared by men of many nations. Wilkins life was one of continuous and nearly incredible drama. A stowaway as a boy, he narrowly escaped slavery and death at the hands of Arab smugglers. He made the first motion pictures ever taken of war (in the Balkans, 1920), and was wounded many times in World War I. His many expeditions to both Poles, his pioneering air flights, and voyages under polar ice made him a hero in every sense and the Australian counterpart of T. E. Lawrence. His story is told by an appreciative Lowell Thomas, for 30 years a close friend of Wilkins. *Photographs, and epilogue by Lady Wilkins.*

TINKLE—13 Days to Glory
The Siege of the Alamo
By LON TINKLE.
256 *pp.*, 5⅜ *x* 8 (1958).....$4.75*t*

Lon Tinkle, book editor of the *Dallas News* and a descendant of one of the heroes of the Alamo, recreates one of the most dramatic moments in American history. Here is a fast moving, day-by-day account of the Siege of the Alamo, documented and told as it actually happened. Tense, stirring, *13 Days to Glory* reveals the question asked by 183 doomed Alamo defenders: "Why must we die?"—and gives the answer.

A vivid portrayal of an important historical event and the people who made it—William B. Travis, Jim Bowie, Davy Crockett, Jim Bonham, Sam Houston, Santa Anna. Unparalleled as a document of American heroism.

TODD—Abandoned
The Story of the Greely Expedition, 1881–1884
By A. L. TODD.
448 *pp.*, 5⅝ *x* 8⅜, *eight pages of photographs* (1960).....$5.95*td*

A scandal that rocked the nation and haunted the survivors for half a century, is told in this dramatic story of Adolphus W. Greely who in 1881 as an inexperienced army lieutenant, was given command of a twenty-six man expedition to establish one of a chain of international circumpolar meteorological stations. He and his untrained party performed extraordinary feats, and set a new northern record in exploration. But relief ships failed to arrive, and Congress was reluctant to provide funds, even for further missions to save the party. When the men were finally rescued after an ordeal graphically and fully described here, there were only six survivors for the joyous homecoming which was soon marred by a scandal that echoed through the years. Here is the complete story of the Greely Expedition, painstakingly extracted by Mr. Todd, from the unpublished papers and diaries of all the men in the party.

TOLBERT—Dick Dowling at Sabine Pass
By FRANK X. TOLBERT.
160 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.50*td*

The Battle of the Sabine Pass on September 8, 1863, is sometimes referred to as the Thermopylae of the Civil War. In the course of action, 43 Irish-born Confederates in a little mud fort successfully fought off thousands of Union soldiers and sailors bent on a major invasion of Texas. Of hearing the news, Horace Greeley commented in disgust that Maj. Gen. William Buel Franklin, the Federal commander at Sabine Pass, was "the first American general in history to lose a fleet to land batteries alone." Frank Tolbert tells the all but incredible story of the Confederate commander, a handsome young Houston saloonkeeper named Lt. Richard William (Dick) Dowling, and his gang of "dock wallopers," and how they thwarted Admiral Farragut, three Federal Generals in command of thousands, and a fleet of iron-clad gunboats.

VANDIVER—Jubal's Raid
By FRANK E. VANDIVER.
McG-H Paperbacks Ed. $2.45*pb**

This superb historical account of one of the decisive battles of the Civil War tells of General Early, moving westward to defend Lynchburg, and then marching down the Shenandoah Valley to cross the Potomac and move on to Washington. It is on this amazing raid in July, 1864, that Mr. Vandiver builds his story. He brings to life in vibrant detail, the confusion and high emotions of the attackers in the last offensive gasp of the Confederacy, and at the same time tells a picture of terror in the city, of whole families fleeing with their possessions piled high in carts and wagons, of the President's Cabinet in an uproar, and of Lincoln himself striding the ramparts to watch the enemy. *Jubal's Raid* tells the whole story of Early's brief victory, his subsequent sporadic failures and successes, and his final exile and bitterness. All are told here in this magnificent account of a battle that might have changed the course of history.

** Available only through your local bookstore.*

WILLOUGHBY AND CHAMBERLAIN—MacArthur 1941–1951
By MAJ. GEN. CHARLES A. WILLOUGHBY and JOHN CHAMBERLAIN.
440 *pp.*, 5¼ *x* 8⅛.....$5.75*td*

During the crucial decade from 1941 to 1951, no single person exerted so profound an influence on American operations in the Pacific and the Far East as Gen. Douglas MacArthur. Here is the authentic account of the man and his achievements during this momentous period. It is based on authoritative, first hand sources not previously available to anyone, and is written by two men uniquely qualified to present it. Charles Willoughby was MacArthur's Chief of Intelligence during the decade covered, and John Chamberlain has written for many national magazines and newspapers. The book contains a wealth of new and exclusive material never before revealed, and it gives MacArthur's thoughts, actions, and decisions on the war in the Pacific, the Occupation of Japan, and the Korean war. In every sense, it is a fascinating and important work.

WOOD AND DEMPSTER—The Narrow Margin
The Battle of Britain, the Rise of the RAF and the Luftwaffe
By Derek Wood and Derek Dempster.
536 *pp.*, 5 1/16 x 8 1/4, *illus.* (1961)....$6.50*td*
One of the most unusual and original books in the annals of warfare, *The Narrow Margin* is the story of a besieged nation rising heroically to defend itself, an unconquerable spirit as its first great weapon amid destruction and death. It is the profoundly absorbing and brilliantly documented account of the Battle of Britain. In unprecedented detail, the authors re-examine the vast drama behind the early years of World War II as the RAF, the Luftwaffe, intelligence, radar, and radio systems were being developed. By means of historical documents and statistics now blazing with glory and tragedy, the book unfolds the tremendous panorama that preceded battle—the settings, the preparations, and then each separate phase of the Battle of Britain itself, covered by date, and giving summaries, interpretations, strategies employed, and the order of battle. Unquestionably a major book on World War II, it shows how a democratic nation, without asserting its belligerency, turned what ought to have been a lightning defeat into a logically won victory. It is an inspiring and sobering book, and clearly demonstrates how a few dedicated individuals made their voices heard over factions, opposition, and apathy to save their homeland.

Novels

ARMSTRONG—Water in the Wine
By April Oursler Armstrong.
320 *pp.*, 5 3/8 x 8 3/8 (1963).....$5.95*td*
Water in the Wine is a spiritual pilgrimage, an attempt to know God's will and hold to it, as it unfolds in the lives of a suburban couple, Chris and Jane McNamara. Jane, a convert to Catholicism, has just given birth to her sixth child, and learns that she must not become pregnant again or she will die. With this threat, the spiritual growth of a loving husband and wife begins. Unwilling to break the tenets of their faith, yet needing to express their love for each other fully, they are fearful of the havoc their dilemma may bring. In their struggle and anguish, the life of the spirit is beautifully expressed and shared with the many richly varied characters in the novel, each of whom, in one way or another, leads to Mrs. Armstrong's stunning and inescapable conclusion.

BENCHLEY—Catch a Falling Spy
By Nathaniel Benchley.
288 *pp.*, 5 3/8 x 8 3/8 (1963).....$4.95*td*
When two cynical Albanian spies discuss the impending doom of an American colleague of the same persuasion, fated not to live long enough to pay his bar bills, the reader may find himself wondering what comes next. For Stuart Long, the hero, is a Sunday spy, and his profession affects his choice of a wife (who must know judo), his place to live (surburbs-be a bore), his hobbies (short-wave radio), and his luncheon companions (pleasant naval officers). As for plot, it's a novel by Nathaniel Benchley.

BENCHLEY—The Off Islanders
By Nathaniel Benchley.
265 *pp.*, 5 3/8 x 8 3/8 (1961).....$4.50*td*
When a Russian submarine charting the waters off Cape Cod runs aground, the distraught crew goes ashore on the nearest island to beg, borrow, or steal a fishing trawler. All they want is to pull the submarine off the sand bar, but what ensues is a comic struggle between the islanders and the submariners who might well serve as models for a solution to East-West problems. There are barricades, ragged battle lines, attempts to sink the submarine, and a riotous hand-to-hand battle in the town dump, all told with Nathaniel Benchley's unerring blend of drama and high humor.

BERNSTEIN—The Grove
By Burton Bernstein.
172 *pp.*, 5 3/8 x 8 (1961).....$4.50*td*
The Grove was a small Jewish summer community in Sharmon, Massachusetts, within commuting distance of Boston. The Bernsteins spent their summers there with about a dozen other families when the narrator was young. Their lives, adventures, wonderful misadventures, touching intrigues, and romances are recreated in fictional form by Burton Bernstein, with a fidelity to a vernacular that is altogether delightful. Comic or poignant, nostalgic or forceful, each story is told beautifully and memorably by one of the most accomplished young short-story writers today.

BÖLL—Billiards At Half Past Nine
By Heinrich Böll.
320 *pp.*, 5 5/8 x 8 3/8 (1962).....$4.95*td*
*McG-H Paperbacks Ed.**
A novel by one of the most distinguished German authors of the new generation, *Billiards At Half Past Nine* is the story of Germany as symbolized by a single family observed through three generations. Central to the theme are the Faehmels and St. Anthony's Abbey. Designed and built by the generation of World War I, blown up by the next generation, the Abbey must be rebuilt from the wreckage by a still hopeful third generation, the people and the abbey rising amid the shattered world around them. Heinrich Böll, a master of the short story and the novel, writes in the great tradition of Thomas Mann, and asserts his own humanist philosophy, developed during his youth under the Nazi regime, and in opposition to it. With this very moving novel, his fame will spread far beyond Germany and Europe.
* *Available only through your local bookstore.*

BRIDGE—The Dangerous Islands
By Ann Bridge.
256 *pp.*, 5 5/8 x 8 3/8 (1963).....$5.50*td*
This tale of mystery and intrigue brings the beautiful Julia Probyn into action again. Along with Julia, her cousin Colin, and a large, superbly drawn cast of Secret Service men, spies, counterspies, and even some innocent bystanders, Ann Bridge takes the reader on a dramatic adventure through the Hebrides, Ireland, and the Scilly Isles in search of answers to some very perplexing questions about camouflaged satellite-tracking stations.

BRIDGE—The Tightening String
By ANN BRIDGE.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
An exciting suspenseful novel and a tale of escape set in Hungary at the outbreak of World War II, *The Tightening String* is the story of a woman's courage and deeply personal convictions as, far from home, she watches frontier after frontier fall to the enemy. The heroine is Mrs. Eynsham, wife of the British consul in Budapest, a woman of immense character whose commitment in the war is great. As the pressures mount on all sides, she witnesses the supreme testing of loved ones—her son in battle, her daughter in an unhappy love affair, and her husband in illness when he suffers a serious heart attack. As the last moment for escape approaches, there are painful farewells, then flight by the one route left open. Building to its dramatic conclusion amid somber overtones, *The Tightening String* is more than a novel of wartime intrigue. Through Mrs. Eynsham, the reader relives the trials of war with its personal fears, and moments of high drama. It is an inspiring novel, offering the beauty of place descriptions, and the delight in *hante-monde* details that are the hallmark of Ann Bridge's suspense narratives. Ann Bridge, herself the wife of a diplomat, is the author of such famed best sellers as *Peking Picnic, The Portuguese Escape,* and *The Numbered Account.*

BRIDGE—Julia Involved
By ANN BRIDGE.
800 *pp.*, 5⅝ *x* 8⅜ (1962).....$6.50*td*
A trilogy of Ann Bridge favorites including three novels that feature the famed Julia Probyn, created by Ann Bridge for these great tales of suspense, high drama and international intrigue.

THE NUMBERED ACCOUNT
"Mystery is only part of the story. As Ann Bridge's regular readers will expect, there are side plots, snap-shot glimpses of people and places, a love affair, and, running through the whole book, the atmosphere of Switzerland."
Christian Science Monitor

THE LIGHTHEARTED QUEST
"All a great deal of fun . . . exceedingly agreeable fiction; it sparkles and it has body."
New York Times

THE PORTUGUESE ESCAPE
"It has romance, intrigue, suspense—all wrapped up in what is practically a travelogue of Portugal."
Chicago Tribune

BURDICK AND WHEELER—Fail-Safe
By EUGENE BURDICK and HARVEY WHEELER.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
A gripping, and thoroughly spellbinding novel, with the impact of documentary coverage and the authentic detail that only novelists of Eugene Burdick's and Harvey Wheeler's stature could sustain, *Fail-Safe* is a record of man's ultimate agonized struggle for survival. Co-author of the controversial best seller *The Ugly American,* Mr. Burdick, writing with Mr. Wheeler, turns his attention to the terrifying prospect of accidental nuclear war, and the awesome dilemma that faces us, our allies, and our enemies. *Fail-Safe* is a novel of almost excruciating dramatic impact, and in its examination of the chance threads on which the immediate fate of mankind now hangs, it is an all too realistic glimpse of a moment in time that may occur tonight, tomorrow, or next week. Eugene Burdick, author of *The Ninth Wave,* a Book-of-the-Month Club selection, and co-author of *The Ugly American,* is a professor of Political Science at the University of California at Berkeley. Harvey Wheeler is also a political scientist.

BURMAN—The Street of the Laughing Camel
By BEN LUCIEN BURMAN.
256 *pp.*, 5⅜ *x* 8 (1959).....$3.95*td*
Ben Lucien Burman, author of *Steamboat Round the Bend* and *It's a Big Country,* is author of this story of a new Huck Finn—African style. Here are the irresistible adventures (and misadventures) of Yance Collum, Texas cowboy and ex-GI, who opens a laundry in Algeria. Yance's story, told in his own amusing Texas idiom, makes him the most lovable and engaging innocent that America ever sent abroad.

CUSHMAN—Brothers in Kickapoo
By DAN CUSHMAN.
320 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
A wildly funny novel, both satirical and oddly touching, *Brothers in Kickapoo* is about a Midwestern town suddenly turned upside down when a Hollywood movie company arrives intending to film a story by a local off-beat nonconformist. Koenig Productions has paid him $600,000 for the book, and what follows is a highly entertaining exposé of small-town America and its values, or the lack of them, involving the townspeople in complicated business speculations, social intrigues, unexpected romances, and real estate transactions. In this overnight boomtown, with its unconsciously farcical parade and banquet of honor, Babbitt has not only grown older and wiser, he knows more than is good for him. Dan Cushman, author of many best-selling books, including the Book-of-the-Month Club selection *Stayaway Joe, The Old Copper Collar, The Silver Mountain,* and *Goodbye Old Dry,* is also a well-known writer in national magazines.

CUSHMAN—The Grand and the Glorious
By DAN CUSHMAN.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*td*
Tells of an exuberant and delightfully nostalgic Fourth of July Day in 1916—the last of the grand old times, after which nothing would ever be the same again. Amid picnic baskets, speeches, stunt flying, and country dances in a small Michigan town, there are some hilarious high-jinks concerning worthless securities, feats of strength, daredevil fliers, threadbare politicians, thwarted romance, two baseball teams, and a race between a plane and an automobile, ending in a stupendous crash, and closing the belle epoque in Michigan and perhaps the whole world. Told in Dan Cushman's customary manner, it is all very funny, very sentimental, a bit Rabelaisian, and always a joyous entertainment.

DANIELS—High on a Hill
By LUCY DANIELS.
320 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*td*
This thoroughly engrossing novel is set at Holly Springs Hospital for Nervous and Mental Disorders—"The Hill," as it is known to patients, relatives, doctors, nurses, and the townspeople who populate this story of hope and despair, tragedy, defeat, and escape. The book tells of Dr. David Holliday, his staff, and

his patients in their sometimes funny, sometimes pathetic daily lives amid real or imagined passions and fears. The powerful plot is alive with suspense, ending, at least for some, with a new life. Against the dramatic story of Dr. Holliday's heartbreaking failure and final despairing triumph are placed the often tender and always fascinating stories of people to whom "The Hill" is a refuge or a prison.

DEWLEN—Twilight of Honor
By AL DEWLEN.
328 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*td*
A rich, fascinating novel of the courtroom drama and the private lives behind a brutal murder, *Twilight of Honor* probes deeply into the character of Big Jim Hutcherson, the best-loved man in the Texas Panhandle. A lawyer, chosen to defend Hutcherson's murderers, gradually realizes that they will never get a fair trial, in view of their crime and the feelings of local townspeople. He begins to dig deeper into Hutcherson's past life, and in doing so, enters a strange chilling world where he finds honor itself eclipsed, and legal ethics calling for the ruin of reputations and the torture of innocent bystanders.

DEXTER—I'll Sing You the Death of Bill Brown
By BRUCE DEXTER.
256 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.50*td*
This novel of ideas is a philosophical drama, and at the same time, a passionate, exciting story. Bill Brown, while on an army work detail, is shot by a lieutenant who thinks Brown is trying to escape. In retribution, Brown's best friend kills the officer, whose father—an extremely wealthy and egotistical industrialist—hires a private detective to find evidence that will convict his son's murderer. The novel is at once a psychological and spiritual detective story, placing the detective squarely between the father's materialistic pride, and the murderer's spiritual pride.

ELGIN—The Halliday Affair
By ROBERT ELGIN.
248 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*td*
"To the sick man, the physician seems to have three faces, those of a man, a devil, and a God," wrote John Owen, the seventeenth-century theologian. It is upon this relationship of doctor and patient that Robert Elgin, writing from firsthand knowledge, has based this searching, impassioned novel of life in a modern London hospital. It is the story of an operation urged on a reluctant patient, and the far-reaching results, as members of her family, then the hospital staff, and a scandal-seeking newspaper, become involved. The novel examines many important medical issues of today, notably whether the doctor or the patient should have the final choice in major surgery, and whether the specialist is limited in such decisions.

IRVING—The Valley
By CLIFFORD IRVING.
284 *pp.*, 5¾ *x* 8⅜ (1961).....$4.95*td*
Panoramic in scope, yet tightly and dramatically woven, *The Valley* is a novel of conflict between a father and his son, bringing death to the one and freedom to the other. Set in the barren cattle and mining country of nineteenth-century New Mexico, it tells the story of Gavin Roy and his son, Clayton, and of the many people whose lives are changed, even destroyed, by their contact with the Roys. Gavin Roy has taken over and developed Diablo Valley, marrying the wife of a man he killed, and bringing up her son with his own. When she dies, Gavin marries a much younger woman, but his own son has grown to manhood, and the drama that unfolds is not only violent and filled with action, but a compelling study of character and changing relationships.

KENTFIELD—All Men Are Mariners
By CALVIN KENTFIELD.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*td*
A novel of great conviction and high artistry, *All Men Are Mariners* is the story of a young American actually in search of himself as he wanders across Europe in quest of enduring values and love. Tom McKinley's midwestern background, seen in retrospect, provides a sharp contrast with the European setting of the novel, which is centered in Copenhagen, and moves from the Scandinavian countries to Sicily. Tom's friendship and subsequent betrayal of another young American, and his passionate love affair with a married woman, heighten his journey. In telling the story of a free spirit in a hopeless search for things that his somewhat shabby mid-century world does not offer, Mr. Kentfield evokes the flavors and regrets with the wanderer's eye, and his descriptions are both memorable and expert. Calvin Kentfield, a contributor to *The New Yorker*, and an editor of the literary periodical, *Contact*, is author of *The Alchemist's Voyage* and *The Angel and the Sailor*, which includes a novella and nine short stories.

LESSING—The Golden Notebook
By DORIS LESSING.
570 *pp.*, 5 1/16 *x* 8 (Simon and Schuster, 1962; McG-H Paperbacks Ed., 1963)
$2.95*pb*
The story of Anna, a successful writer who sacrifices her public acclaim for the sake of an inner search which leads her through an inferno more horrendous than Dante's. This search for personal meaning is recorded in four notebooks: a black one, in which she reviews her African experience; a red one, about her past political life; a blue one, which is her personal diary; and finally the golden notebook, which brings together the threads of the others and introduces a new force in Anna's life, an American writer with whom she falls in love. What will make it a lasting work of art is Miss Lessing's attitude, her deadly earnestness and involvement.

LONDON AND FISH—The Assassination Bureau, Ltd.
By JACK LONDON and R. L. FISH.
224 *pp.*, 5⅜ *x* 8 (1963).....$4.50*td*
*McG-H Paperbacks Ed.**
Here is a Jack London novel never published before—a story that Sinclair Lewis sold to London as an idea, and now makes its debut in print with this edition. London wrote about two-thirds of the novel, and R. L. Fish completed the manuscript, writing so perfectly in the author's style, that no one but London himself would have known the difference. The novel tells the story of an international, highly moral kind of Murder, Inc., an organization that assassinates for profit, but kills only when it decides that the victim deserves death. When the head of the gang accepts a con-

tract committing the bureau to kill him, the results are the kind of fast, exciting reading that made London famous.

** Available only through your local bookstore.*

MORTIMER—The Pumpkin Eater
By PENELOPE MORTIMER.
224 *pp.*, 5 *x* 7¾ (1963).....$4.95*td*

The Pumpkin Eater tells of a tragic human being, and it slowly pieces her together by means of many apparently unrelated scenes, some presented out of time, but all of them given with a steady logic of their own—and all so beautifully selected and so carefully juxtaposed that a spellbinding pattern soon emerges for the reader. Point by telling point, she unfolds her own story, addressing the reader at times, or childhood friends, or even her husband, and she relates each fragment with honesty, with tough humor, and without a trace of self-pity.

MORTIMER—Saturday Lunch with the Brownings
By PENELOPE MORTIMER.
208 *pp.*, 5⅜ *x* 8 (1961).....$3.95*td**

Twelve brilliant and compelling short stories make up this fine collection by one of the most talented authors in England today. Penelope Mortimer, a frequent contributor to *The New Yorker*, and author of the novels *Cave of Ice*, *Bright Prison*, and *Villa in Summer*, writes with the greatest insight and control about middle-class life in England, or of English families on the continent, describing the complex, frequently unsettling relationships and situations beneath the placid domestic surface. Intensely dramatic, and sometimes pathetic, satiric, or humorous, the stories are powerful, perfectly controlled models of style by a masterful storyteller.

** Including Canada.*

NAIPAUL—A House for Mr. Biswas
By V. S. NAIPAUL.
531 *pp.*, 5⅝ *x* 8¾ (1962).....$5.95*td*

A jubilant, funny, sad and brilliant novel about a Hindu of low caste and fortune who lives in Trinidad. *A House for Mr. Biswas* was greeted with uniform raves from critics and public alike when published in England. The *Observer* said it had "the unforced pace of a master-work," and the *Spectator* called it a "very rich, very entertaining novel, and under no circumstances to be missed." Mr. Biswas, continually faced with circumstances luring him to defeat, continually sidesteps them, directing his struggle to building a "house of his own" amid poverty and ignorance, and despite the attitudes and opposition of illiterate peasants, Communist intellectuals, prima-donna relatives, landowners, and jealous neighbors. Told with humor, devotion, and skill, it is the story of a glorious and pathetic victory. V. S. Naipaul is the author of three other comic novels about Hindu life in Trinidad and its multi-racial society: *The Mystic Masseur*, *The Suffrage of Elvira* and *Miguel Street*—all books highly praised.

OGILVIE—Call Home the Heart
By ELISABETH OGILVIE.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*t*

When Leslie Whitney sees her fisherman husband off for the summer, she expects to spend the days alone happily and quietly, working with women of her sewing circle, and devoting leisurely hours to her home, her friends, and long walks around their island world. But she does not reckon with the intrusion of a ghost from the past, whose return shakes the community to its very foundations. Gradually, Leslie is drawn into the turmoil that grows on all sides, until at length she finds herself at the very heart of the conflict, her best and most trusted friends blaming her for problems that have destroyed their placid island. Set against the stunning background of the Maine coast, *Call Home the Heart* is a story of a thoroughly good woman's disillusionment and her ultimate triumph over injustice, giving an observant glimpse of human nature at its worst and at its best.

OGILVIE—No Evil Angel
By ELISABETH OGILVIE.
352 *pp.*, 5⅜ *x* 8 (1956).....$3.95*td*

A powerful novel of love and hate on an island off the Maine coast which revolves around Johnny Fordyce, who owns everyone and everything on this rugged little island. As the story opens, Mr. Johnny's two sons are on the verge of revolt against their father. This revolt spreads to include the oppressed fishermen, and even touches Mr. Johnny's beautiful new wife, Christine. The two sons at first resent this ex-actress their father brought down from Boston, but ultimately each in his own way grows to love her. The growing hate for Mr. Johnny erupts in island violence —fires, fights, attempted murder, and suicide.

RAYNER—The Long Haul
By D. A. RAYNER.
194 *pp.*, 5⅜ *x* 8 (1960).....$4.50*td*

A sweeping novel of the sea, this is the story of a wartime captain's bitterness and final pride when his destroyer is turned into a tug on an urgent mission. No member of the crew felt that towing a disabled, unmanned tanker full of high-octane gas was an assignment worthy of a destroyer, no matter how critical the need for gas. But the six days and six hundred miles Captain Murrell had to haul the unwanted ship were filled with terror and frustration gradually turned his resentment to grim determination. In the face of enemy attack, fire aboard, and combat, the Captain's triumph makes *The Long Haul* a superb novel of the sea and a fascinating study of man's courage in wartime.

RUARK—Uhuru
By ROBERT C. RUARK.
600 *pp.*, 5⅝ *x* 8¾ (1962).....$5.95*td*

"Uhuru"—freedom—is the one word most used and abused in Africa today. On its contradictions and misuses, Robert Ruark has based this powerful, richly woven novel. Black and white, rich and poor, every human being in Africa has his own particular idea about "Uhuru," and the Utopias of one man are hopeless disasters for another. Against this vast, turbulent background some twenty skillfully drawn characters from every walk of contemporary African life fulfill their widely diverse but absorbing and significant roles in a towering tragedy that has only begun. Mr. Ruark prescribes no cures and points out no morals. In this compelling novel, he has written a truth, and as such, it is perhaps clearer than fact, more meaningful when seen by a gifted, observant, and courageous author. Robert C. Ruark, a famed columnist, is author

of the celebrated best seller, *Something of Value*, a widely praised Book-of-the-Month Club selection, and *Grenadine Etching, Poor No More, The Old Man and the Boy*, and *The Old Man's Boy Grows Older*.

SANGUINETTI—The Last of the Whitfields
By ELISE SANGUINETTI.
320 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.75*td*
A charming first novel by a gifted young writer, *The Last of the Whitfields* is the story of Felicia Whitfield, told by her in her own unique vernacular—a language as delightful as it is sparkling and fresh. In her account of the Whitfields and their friends and neighbors in Ashton, Georgia, Felicia, who is something of a liar and something of a genius, tells far more than she intends, but the results are enchanting. Among the lively incidents she relates is her own particular account of a famed journalist's visit. He stays with the Whitfields while preparing an article on race relations in Ashton, and Felicia's tendency to ignore facts, plus his own similar professional habits, arouse the whole town. For this, on top of her other highly diverting but somewhat unpredictable adventures, she is finally punished when packed off to boarding school. Elise Sanguinetti's stories, including one incident in this book, have appeared in *Mademoiselle* and other magazines.

SELF—A World of Horses
Edited by MARGARET CABELL SELF.
385 *pp.*, 6 *x* 9, *illus.* (1961).....$6.95*t*
A well-known author on equestrian subjects, Margaret Cabell Self has gathered a second collection of great stories that combine her tremendous knowledge of horses with her discriminating taste in literature. More than thirty fine pieces, some of fact and some of fiction, have been chosen from a wide range of authors including Dickens, Kipling, Winston Churchill, Benjamin Franklin's schoolmistress, Mark Twain, Edgar Allan Poe, Booth Tarkington, Will James, Liam O'Flaherty, Muriel Bowen, Marguerite Bayliss, Enid Bagnold, MacKinlay Kantor, and many others. It is guaranteed to delight literary connoisseurs and horse lovers alike.

SPENCER—The Light in the Piazza
By ELIZABETH SPENCER.
110 *pp.*, 5⅜ *x* 8 (1960).....$3.00*td*
An exquisite novel of love, secret sorrow, and desperate hope by one of the most distinguished authors of our time, *The Light in the Piazza* is set in present-day Florence, and is as subtle and astonishing as the city itself, which not only plays its role but serves as background for the sometimes haunted, sometimes jubilant story. Of the book, Mark Schorer, the eminent novelist and critic, has said, "It is a beautiful short novel about a bewildered American mother and her daughter in Italy. Written with subtlety and charm, the story moves with a curiously muted pathos, as in one surprising revelation after another, the daughter's situation and the mother's dilemma become clear . . . Elizabeth Spencer is her own woman, writing with her own taut authority of style, observing eye, and controlled disenchantment, all to create this enchantment of her own."

SPENCER—The Voice at the Back Door
By ELIZABETH SPENCER.
388 *pp.*, 5⅜ *x* 8 (1956).....$1.98*td*
Against a background of racial tension Elizabeth Spencer has created a dramatic story. Revolving around a small-town candidate for sheriff in Mississippi are a group of local citizens caught up in a situation that is both exciting and deeply stirring. A Negro veteran, writing newspaper stories under a nom de plume for a Northern Negro paper, is drawn to involve himself in white affairs whenever he can. His activities lead him into sudden danger —a white man is shot and the Negro discovered at the scene. Duncan, the young sheriff, feeling that the day for equal legal rights is at hand, holds strongly to his beliefs and fights heroically for the cause of the suspected Negro, as the emotions of the whole town swing bitterly against him.

STERN—In Any Case
By RICHARD G. STERN.
256 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.50*td*
*McG-H Paperbacks Ed.**
Gripping adventure and deep psychological insight characterize this novel of a father's battle to clear the name of a dead son accused of treason. An underground group during World War II has been betrayed by one of its members and wiped out by the Germans. It is a young American in the group, himself gassed in a Nazi concentration camp, who is named years later as the traitor by a priest close to the underground activities. As the father knows intuitively that his dead son "was not a Judas," he dedicates himself to proving it, and the novel develops along two lines—in unraveling the real story of the underground fighters, and in revealing a father-son relationship filled with anguish, guilt, and poignant memories.
** Available only through your local bookstore.*

STUART—Hie to the Hunters
By JESSE STUART.
266 *pp.*, 5½ *x* 8 (1950).....$4.50*t*
A novel set in the hill country of Kentucky. Against a rich background of hound dogs and foxhunts, square dances and corn-shucking parties, feuds and log cabins, is the story of a small, pale-faced city boy who flees to the hill country to live in a one-room log shack with the colorful tobacco-raising, fox-hunting Sparks family.

STUART—Mr. Gallion's School
By JESSE STUART.
In Press
The conflicts that occur when a dedicated school principal tries to regenerate a Kentucky high school fallen in disrepair and disrepute give this novel the impact of a documentary report and the full immediacy of today's headlines. It is the story of an idealistic, determined man involved in his own personal, and fatal, battle with irresponsible forces.

TAYLOR—Journey to Matecumbe
By ROBERT LEWIS TAYLOR.
416 *pp.*, 5⅝ *x* 8⅜ (1961).....$5.95*td*
This wildly funny, hilarious, and often hair-raising story is told by a boy of fourteen in flight with some unlikely companions down the Mississippi. Young Davy makes the harrowing trek from Kentucky to Key West during the decade after the civil war. With him are his Uncle Jim and a Negro servant, plus a diverse cast of characters either pursuing or in pursuit of Davy's party or each other. Davy and his friends do escape, more or less intact, through

a wild variety of fabulous and incredible plots, traps, and ambushes that threaten at every turn, and testify to the author's unflagging sense of invention and unfaltering imagination.

TOLSTOY—War and Peace
By LEO TOLSTOY.
1,146 *pp.*, 6½ *x* 8⅝, *illus.* (1962)..$10.00*td*
A superb translator, a distinguished artist, and a craftsman skilled in the art of book production give this new edition of *War and Peace* a visual beauty that fully reflects the great masterpiece Tolstoy created between 1865 and 1869. Complete and unabridged in the revised translation by Constance Garnett, the volume is illustrated by John Groth, whose 40 line drawings capture the spirit and adventure of Tolstoy's epic work. The luxurious binding and large format make this edition of *War and Peace* a perfect gift book and an enduring treasure for every reader.

TURNER—Buttermilk Road
By THOMAS TURNER.
320 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.50*td*
Romance, melodrama, mystery, and suspense characterize this novel of a small town in the South. Mercer, Georgia, just a few miles from Atlanta, is a "three-family town"—and the three leading families become involved in attempts to control a large local business. There are also romantic involvements among them, and mysterious intruders, violence, and suicide. Mr. Turner is well known for his short stories, which have appeared in many literary quarterlies and collections.

WEEKS—Some Trust in Chariots
By JACK WEEKS.
In Press
Against a highly exciting background, Weeks tells the story of the people who created the great auto industry—of the first generation of mechanics and far-sighted bankers who began it, and of the second generation which inherited the immense wealth and the immense problems. How they succeed, or fail, how their personal lives are made and sometimes destroyed are the elements of this fascinating story, and in telling it, Jack Weeks writes of an aspect of American society as it has never been described before.

WILLIAMS—A Passage of Hawks
By WIRT WILLIAMS.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*td*
Neurotic, exciting, and unmastered, Roberta Frayne marries a World War II hero, and the couple's struggle for supremacy, one over the other, is drama of a high order. Blackmail and murder are among the many results, and although her husband falls in love with a young girl of far less than Roberta's stature and position, it is Roberta—a rare, almost baffling heroine—who keeps the reader turning the pages.

WILSON—The Gifts
By DOROTHY CLARKE WILSON.
282 *pp.*, 5⅜ *x* 8 (1957).....$3.95*td*
A moving novel based on the boyhood of Christ and the gold, frankincense, and myrrh received by Jesus from the wise men at His birth. In a dramatic and reverent re-creation of Jesus' twelfth year, the young Jesus, moved by the poverty and the sorrow around Him, reaches out to comfort certain of His fellow townsmen. To these Jesus, without asking the consent of Joseph and Miriam, gives His only material wealth, the gifts. He soon discovers that the gifts have neither alleviated the pain or sorrow, nor solved any problems. Only when Jesus reaches out to help an unfortunate outcast cruelly excluded from any human contact does He discover what must be His difficult but glorious way. For in approaching this unfortunate man He gives freely of Himself and steps beyond the laws and codes of the time. Set in Nazareth and Jerusalem, the story is further enriched by the author's thorough knowledge of biblical background.

Picture Books and Guides

Picture Books

CLYMER—Treasury of Early American Automobiles, 1877–1925
By FLOYD CLYMER.
224 *pp.*, 8½ *x* 11, 500 *illus.* (1950)...$5.95*t*
A large, handsomely designed gift-album of photos, advertisements, songs, cartoons, text and memories affectionately dedicated to the pioneers of the horseless carriage days. But Mr. Clymer, perhaps the world's top authority on automobile history, has created more than just a chronological history-in-photographs of the American automobile. He devotes special sections to the Indianapolis Speedway, the empire of Henry Ford, automobile advertising and slogans, Milady's auto fashions, famous first cars, and the short colorful lives of the steamer and the electric. From the original Selden horseless carriage (1877) to a latter-day version of the immortal Model T (1925), the three hundred or more photographs in this artfully designed album will evoke mirth and memories for the middle-aged and laughter and amazement for the too-young-to-remember.

CLYMER—Henry's Wonderful Model T—1908–1927
By FLOYD CLYMER.
219 *pp.*, 8¼ *x* 11, *illus.* (1955).....$5.95*t*
This is a fond album of memories of the car that put America on wheels. More than 500 photographs, diagrams, advertisements, jokes, cartoons and 20,000 words of informative text will bring back the wonderful past to thousands of T owners. For the connoisseur there are statistics, for the sentimentalist affectionate anecdotes. A lively, colorful, and fitting tribute to the famous T.

JENSEN—The White House
And Its Thirty-Three Families
By AMY LAFOLLETTE JENSEN. New Revised Edition.
304 *pp.*, 9 *x* 12, *illus.* (1962).....$12.50*td*
Revised and enlarged to include the Kennedy family, this delightful history in pictures and text is a guided tour, not only through the White House and grounds, but through American history as well. With the aid of hundreds of illustrations, Amy LaFollette Jensen tells

the story of the Executive Mansion, its famous occupants and visitors, and the changes that have taken place through the years. With the great amount of recent public attention focused on the White House, from the reconstruction begun during the Truman Administration to the present work Mrs. Kennedy has undertaken to restore furnishings and proper decor to the rooms, the book is sure to find an even wider audience for this new edition. Amy LaFollette Jensen, author of *The Pony Express*, a book for younger readers, shares her interest in American history with her husband, Howard Jensen, Art Director of Popular Science Publishing Company, who worked with her in creating this beautiful volume.

JONES AND SCHLEISSNER—Homes of the American Presidents

By CRANSTON JONES and WILLIAM SCHLEISSNER.

212 *pp.*, 9 *x* 12, *illus.* (1962).....$12.95*td*

Homes of the 34 American presidents and their families, from Mount Vernon to Hyannis Port, are described in detail and fully illustrated by photographs that give a remarkably personal glimpse of our chief executives and of our own changing tastes and fashions. Monticello, the Hermitage, Sagamore Hill, Hyde Park, Gettysburg and all the other residences, great or small, inside and out, are explored by Mr. Jones, whose informal commentary is filled with anecdotes, rich detail, and amusing sidelights that make the book a most unusual treasury of Americana. 200 illustrations, 8 pages in color. Cranston Jones, an associate editor of *Time* and the magazine's Architecture Editor, is the author of *Architecture Today and Tomorrow*. William Schleissner is a well-known architectural photographer.

KERENYI—Greece in Colour

Text by C. KERENYI. Photographs by R. G. HOEGLER.

148 *pp.*, 11⅜ *x* 13⅜, 57 *full color photographs* (1958).....$25.00*tf*

The glory that was and is Greece in 57 magnificent full colour photographs and brilliant text. Photographs by R. G. Hoegler capture the grandeur and majesty of this fabled land, its subtlety and drama. Includes exquisite color photographs of the landscape of Greece; the fierce rocky coasts, the fertile fields; the monasteries and convents; and most beautiful of all, the people of Greece. In text, Professor Kerenyi explores the peculiar character of Greek light and its effect on some of history's great literary figures; Goethe, Hans Christian Anderson, Flaubert, Hauptman. Introduction by Lord Kinross. A magnificent book, a tribute to a past that will not pass, a present that will prevail.

ROWSOME—Trolley Car Treasury

By FRANK ROWSOME, JR., STEPHEN D. MAGUIRE, Technical Editor.

224 *pp.*, 8¼ *x* 7½, 300 *photographs* (1956) $5.95*t*

A warming tribute to the time of the trolley that recreates vividly the nostalgic flavor of this wonderful era. The book presents a wealth of trolley anecdotes, songs, photographs, and cartoons that recapture a century of American streetcars, cable cars, interurbans, and trolleys. With authoritative text and photographs, the authors trace the history of the trolley—from the first horse-car before the Civil War to the last-stand Birney, P.C.C., and PAYE cars fighting to keep the trolley on the street. Here are the magnificent private cars of the trolley tycoons along with the Toonerville trolleys, the trolley hearses, a trolley that ran under water, and even a trolley battleship.

SUTHERLAND—Gold

By C. H. V. SUTHERLAND.

196 *pp.*, 7 *x* 9 (1960) *color and black and white photographs*.....$8.95*tf*

Gold is as much a part of recorded history as it once was of myth and legend, and it is inseparable from the story of mankind. In this handsomely illustrated volume, Dr. Sutherland recounts the whole fascinating story of the rare and coveted metal, from prehistoric times and the fabulous treasures of ancient Egypt, Persia, and Greece, through the gold rushes of the nineteenth century to the present time. In discussing gold today and speculating about its future, he shows that it is no longer a badge of power, but an instrument controlling economies of nations and the fate of civilized man.

TAYLOR—The Science of Life

A Picture History of Biology

By GORDON RATTRAY TAYLOR.

360 *pp.*, 6¾ *x* 9, *illus.* (1963).....$9.95*id*

The fascinating history of biology, from early beliefs to our present knowledge of biochemical genetics, is traced in this book. The author presents absorbing human-interest information in each chapter—about Linnaeus, Darwin, Pasteur, and Mendel—while presenting the history of science in its full sweep and grandeur. The book is illustrated by 336 beautiful gravure pictures in black-and-white and by 16 pages of pictures in full color, and is the most lavishly illustrated history of biology ever published.

Reference Books

MURPHEY—How and Where to Look It Up

A Guide to Standard Sources of Information

By ROBERT W. MURPHEY, Encyclopedia Britannica.

750 *pp.*, 6⅝ *x* 9¾ (1958).....$15.00*t*

Here is a reference volume that makes the important job of research quick, easy and efficient. With more than 3,000 reference sources annotated, and over 10,000 indexed entries, this book is designed to show anyone—layman or professional researcher—how to find almost any kind of information. This book is the first completely comprehensive, all-inclusive guide to standard reference sources. In simple, straightforward terms, you learn how to find the information you want, where to find it, and how to evaluate and use it. Thoroughly indexed and cross-referenced, the book is organized for instant use. Accurate and up-to-date, it is as easy to use as a dictionary. *How and Where to Look It Up* covers every imaginable area of interest and research. Efficient format prevents errors, saves time. Will be invaluable to librarians, teachers, students, artists, writers, lawyers, businessmen.

PART I is a general survey of reference sources. It describes the library and its uses,

the mechanics of research, the make-up of reference volumes, and the various types of informational sources available.

PART II lists, analyzes and evaluates all basic reference sources—general encyclopedias, annuals, guides to periodicals and books, directories, government, commercial and organizational sources of pictorial and graphic material, and many more.

PART III covers, under specific subject headings, sources of information about, and pictures of, people, places and things. It pinpoints facts on thousands of different subjects, all arranged for ready reference.

WALKER AND MEANEY—How to Bat

By HARRY WALKER and TOM MEANEY.

288 *pp.*, 5⅝ *x* 8⅜ (1963).....$3.95*td*

A series of instructional sessions by baseball's greatest hitters who tell how to bat. Such stars as Mickey Mantle, Yogi Berra, Pete Reynolds, Al Kaline, Ted Kluzewski, and the other active players in the American League, plus such inactive all-time greats as Joe DiMaggio, Ted Williams, and Hank Greenberg are included. Over the years, Harry Walker has collected a superb group of taped interviews with all the top men, each telling how he approaches the batting phase of the game.

Military Guides

BLACKMAN—Jane's Fighting Ships, 1962–1963

Edited by RAYMOND BLACKMAN.

550 *pp.*, 8½ *x* 12½, *illus.* (1963)...$37.50*tf*

This sixty-fifth edition of the famous *Jane's Fighting Ships* is an unparalleled guide to the momentous developments, progress, and change in navies around the world. The new edition explores the increasing trends toward nuclear-powered submarines, new types of ships, and the latest facilities for firing missiles. As dependable as it is up-to-date, the book maintains Jane's long tradition as the most authoritative work of its kind ever published.

BRIDGMAN—Jane's all the World's Aircraft, 1962–1963

Edited by LEONARD BRIDGMAN.

550 *pp.*, 8½ *x* 12½, *illus.* (1963)...$37.50*tf*

Year after year, the complete accurate coverage of the latest international developments in aviation makes each new edition of *Jane's Aircraft* a significant event in publishing. With emphasis on commercial jet planes and new military aircraft of all nations, in an increasingly complex and rapidly changing pattern, this most famous guide to world aviation reflects every advance and accomplishment of the space age.

Religious and Inspirational Books

THE ILLUSTRATED WORLD OF THE BIBLE LIBRARY

In Text, Commentary, and Natural Color Volumes 1–4 by BENJAMIN MAZAR and MICHAEL AVI-YONAH; Volume 5 by MICHAEL AVI-YONAH.

1600 *pp.*, 8½ *x* 11½, *illus.* (1961)

Old Testament Edition (Vol. 1–IV).$80.00*t**

New Testament Edition (Vol. I–V).$100.00*t**

Vol. I–V.....ea. $25.00*t**

In these magnificent volumes, the Bible verses or passages of special interest that can be illustrated by archaeological treasures, monuments, artifacts and authentic reconstructions, or by actual landscapes and ruins surviving the centuries, are the basis of each page of text. When explained or clarified by such graphic means, and by descriptive commentaries, maps, photographs, and drawings, the words of the Bible are brought into an unforgettable visual perspective—fascinating, informative, and profoundly inspiring. Based on the most recent scientific investigations—archaeological, topographical, ethnic, and historical—*The Illustrated World of the Bible Library* re-creates the cities and battlefields, the deserts and plains of antiquity, the migrations and vast struggles, the very world in which the great Biblical heroes, patriarchs, judges, kings, and prophets lived. Brilliantly organized and produced by a distinguished Board of Editors, the volumes are filled with approximately 1,500 color plates. Volume I—The Laws. Volume II—The Early Prophets. Volume III—The Late Prophets, Volume IV—The Writings. Volume V—The New Testament.

* *Not for sale in Israel.*

ANDERSON—The Theology of the Christian Mission

Edited by GERALD H. ANDERSON.

320 *pp.*, 5⅝ *x* 8⅜ (1961).....$6.50*td*

This is a basic book for Christians who seek to understand the urgency of the Christian mission today in terms of theology. Events of the past twenty years require a gigantic rethinking of missions from a theological point of view, and Dr. Anderson's book is a significant contribution to the intellectual ferment stirring in church and missionary circles. In his symposium, he has rounded up twenty-five top-level articles by outstanding leaders of Christian thought—American, British, and Continental, as well as those from lands where the Christian Church has taken root in this century. Among the contributors are Paul Tillich, Karl Barth, Oscar Cullmann, G. Ernest Wright, F. W. Dillingstone, L. Harold De Wolf, Hendrik Kraemer, A. C. Bouquet, R. Pierce Beaver, Frank Wilson Price, and William Richey Hogg.

AVI-YONAH AND KRAELING—Our Living Bible

By MICHAEL AVI-YONAH and EMIL G. KRAELING.

320 *pp.*, 8¾ *x* 10¾, *illus.* (1962)..$15.00*td**

Some 400 of the superb illustrations from the ILLUSTRATED WORLD OF THE BIBLE LIBRARY—most of them in full color—accompany the story that Dr. Avi-Yonah and Dr. Kraeling tell of the Hebrew people, their literature and their faith in the tiny land from which Christianity emerged to transform the world.

The lavish illustrations, so widely acclaimed when the five-volume library was published last year, bring into dramatic perspective the patriarchs and kings, the prophets and priests, warriors and saints, and the proud and the humble people from whose lives the Bible grew.

* *Including Israel and Hebrew language.*

BALY—Geographical Companion to the Bible
By DENIS BALY.
176 *pp.*, 6¼ *x* 9⅛, *illus.* (1963)....$5.95*td*
This is a Bible Atlas of an entirely new kind, with a series of 16 maps in color and 32 maps in line whose variety, detail, and draftsmanship are unsurpassed. There are also 30 halftone illustrations of archaeological sites. The *Geographical Companion* is concerned with the "solid earth" of Palestine: its configuration, appearance, weather, rainfall, vegetation, rivers, deserts, and fertile areas. This land affected the way Bible people lived, thought, traded, fought wars, and worshipped. Professor Baly deals in a fascinating manner with the impact of geography and geology on the structure of life in Bible lands.

BISHOP—Go with God
By JIM BISHOP.
399 *pp.*, 5½ *x* 8 (1958).....$5.00*td*
A magnificent selection of more than 375 prayers of all faiths and all times—together with a moving personal narrative of prayer by the author of *The Day Christ Died*. Here are the most beautiful prayers—traditional, ritual and personal—from every religion—Protestant, Catholic, Jewish, Moslem, Buddhist and Hindu. Here, too, are the great prayers of history; the favorite prayers of famous contemporaries, and prayers for those in doubt. Each section of the book has a preface by Mr. Bishop, and each prayer a paragraph of explanatory text. A book that will be a source of ever-increasing pleasure and inspiration in homes of every denomination.

BLAUW—The Missionary Nature of the Church
A Survey of the Biblical Theology of Mission
By JOHANNES BLAUW.
224 *pp.*, 5⅜ *x* 8 (1962).....$3.50*tg*
A re-examination of the Biblical basis of mission has been an essential part of the search for a new strategy of missions in a different kind of world. Dr. Blauw, secretary of the Netherlands Missionary Council, accepted an invitation to make a survey and appraisal of what theologians have been saying over the past three decades with any relevance to this subject. He has successfully presented an account of the Biblical foundation and motivation for mission, based upon modern theological research into the Old Testament, inter-Testamental, and New Testament writings. He summarizes this in an exposition of I Peter 2:9–10, maintaining that "a 'theology of mission' cannot be other than a 'theology of the Church,' as the people of God called *out* of the world, placed *in* the world, and sent *to* the world."

BROWN AND SCOTT—On the Road to Reunion
Edited by ROBERT BROWN and DAVID H. SCOTT.
292 *pp.*, 5⅝ *x* 8⅜ (1963).....$6.50*td*
This book informs the layman and the average minister about the issues involved in the proposal made by Dr. Eugene Carson Blake in his now-famous San Francisco sermon of May, 1960: that the United Presbyterian Church in the U.S.A., the Protestant Episcopal Church, the Methodist Church, and the United Church of Christ start holding conversations looking toward eventual reunion. There are 20 chapters by leaders in each of the denominations. About half of the chapters provide background material that bears upon the present proposal. The other essays are in reaction to Dr. Blake's, pro and con, plus a final chapter by Dr. Blake.

COWIE—The March of the Cross
By LEONARD COWIE.
224 *pp.*, 10¾ *x* 8½, 350 *illus.* (1962)
$10.00*td**
The full magnificent story of Christianity is told through superb illustrations, extensive maps, and richly informative text in this beautiful book. A vast panorama of men and events—from St. Paul to Reinhold Niebuhr, from the earliest missionary journeys out of Jerusalem to the world-wide movements spreading the Gospel today—is covered, and the book ends by exploring such diverse aspects of the modern scene as new church architecture, the World Council of Churches, the recent "religious revival," Pope John's Ecumenial Council of 1963. Skillfully organized into nine chapters, representing historic epochs, the book carries the reader from the Crucifixion through all the fascinating centuries as the Church grew out of the first small band of Palestinians to a world religion. Each phase of Christian history is illustrated by artists contemporary to the period—men who found their inspiration in the faith that had its roots in events of the first Easter morning, and created the great works of art that tell of empires falling, holy crusades, saints and kings, hermits and popes, the Reformation and the Renaissance, and the religious wars.

* *Not available for sale in Canada.*

DAVIS—The Answer Is God
The Inspiring, Personal Story of Dale Evans and Roy Rogers
By ELISE MILLER DAVIS.
264 *pp.*, 5⅜ *x* 8, *illus.* (1955).....$4.50*td*
This is the warm, intimate biography of Roy Rogers, "King of the Cowboys" and his wife, Dale Evans Rogers. It tells of the miracle that occurred that brought God into their lives, and of their conviction that they must bring their faith and belief in God to others. The author traces the whole pattern of their lives that brought them to this point, climaxed by the discovery of the terrible physical handicap of their daughter Robin. The book is a sincere tribute to one of America's most popular and beloved couples.

DENTAN—The Design of the Scriptures
By ROBERT C. DENTAN.
288 *pp.*, 5⅜ *x* 8 (1961).....$5.00*t*
This over-all view of the scriptures focuses on central themes and teachings of the Bible. Part I sets forth the history to be found in the Bible's pages; Part II, the doctrines; Part III shows the relevance of these teachings to life today. A book to be used along with the reading of the Bible, not a substitute for it, it provides the reader with a good working knowledge of Biblical theology. With its fine synthesis of the basic unities in the Bible, it is a

superb book for ministers, teachers, students, and laymen, and indispensable for the church library and for adult Bible courses.

DE VAUX—Ancient Israel
Its Life and Institutions
By ROLAND DE VAUX.
640 *pp.*, 6⅛ *x* 9¼ (1962).....$10.95*td*
This definitive book of Old Testament sociology opens with a brief study of nomadism and the tribal organization. Père de Vaux then deals fully with family institutions: marriage, the position of women and children, inheritance, and death and funeral rites. The second section is concerned with civil institutions; the free population and slaves; the concept of the state; the person of the king, his household, officials, administration; finance, public works, law and justice, economics, the calendar, and weights and measures. The final sections on military and religious institutions are treated in equally full and scholarly detail. The book is described as being "without a peer in its field," Père Roland de Vaux, recognized as France's greatest Biblical archaeologist, teaches at the Ecole Biblique in Paris. and helped dig the remains of the Qumran (Essene) Community, famous for the Dead Sea Scrolls.

DRINAN—Religions, the Courts, and Public Policy
By ROBERT F. DRINAN, Dean, Boston College Law School.
320 *pp.*, 5⅜ *x* 8⅜ (1963).....$5.95*td*
The author, writing in non-technical language, deals with the more acute problems in this field: religion in public schools, public funds for church-related schools, and Sabbath laws. Dean Drinan excels in his ability to explain and make fascinating the interlocking strands of American history, constitutional law, diverse sectarian religious approaches to Church-State relationships that contribute to the present confused situation.

ENSLIN—The Prophet from Nazareth
By MORTON SCOTT ENSLIN.
256 *pp.*, 5⅜ *x* 8⅜ (1961).....$4.95*t*
The thesis of Professor Enslin's book is that Jesus thought of himself as a prophet of God in the Jewish tradition, that his message was primarily of the coming New Age in which injustices would be rectified; that he was clearly understood by the poor people who "heard him gladly" and by the upper classes; and that he was crucified as a troublemaker who might endanger Palestine with an even harsher colonial policy by Rome. On the documents available, Professor Enslin brings to bear an uncompromising historian's approach and the tools of Biblical textural criticism. He argues for a recognition that the "real Jesus" and the Christ of faith are sharply different, and that each has its values for the twentieth century.

FULLER—Valiant for the Truth
A Treasury of Evangelical Writings
Compiled and edited by DAVID OTIS FULLER.
448 *pp.*, 6⅛ *x* 8¼ (1961).....$7.95*td*
A stirring anthology of evangelical sermons and writings by the great men in Christian history who have changed lives by the power of their words, *Valiant for the Truth* opens with a superb selection from an epistle of Paul the Apostle. The great Catholics of pre-Reformation ages are represented by Athanasius, Ambrose, John Chrysostom, Augustine, Anselm, Thomas a Kempis, and Savonarola. The great Reformers, Wycliffe, Huss, Luther, Zwingli, Calvin, Knox, and Cranmer follow, and representing modern times are Baxter, Bunyan, Edwards, Tennent, Wesley, Whitefield, Brainerd, Asbury, Carey, McCheyne, Ryle, Hitchcock, Maclaren, Talmadge, Spurgeon, Moody, Kuyper, Haldeman, and Machen.

GREEN—The Modern King James Version of the Bible
Edited by JAY GREEN.
1536 *pp.*, 5¾ *x* 8¾, *illus.* (1962)..$7.95*tkd*
This is the Bible for adult readers who want God's word in the King James Version with a minimum of necessary word changes for easier, quicker reading. For example, words that hardly anyone understands, such as amerce, bestead, neesing, and besom have been replaced, Old English verb endings modernized, and nearly all the other similar improvements for modern versions adopted. Poetic passages are set in verse form, and verses for memorizing remain unchanged.

GREEN—The Children's Version of the Holy Bible
Edited by JAY GREEN.
1536 *pp.*, 5¾ *x* 8¾, *illus.* (1962)..$7.95*tkd*
This complete Bible has been reader-tested by thousands of children, who read and marked it for themselves, showing difficult words and Old English expressions to be translated into their own age level. Highly recommended by Christian Education experts as a Bible teaching instrument, this version employs a basic fourth-grade vocabulary without the loss of Biblical terms, and throughout, difficult words are phonetically pronounced. Names, places, and long words are diacritically marked so that they can be read aloud by children.

GREEN—The Teen-Age Version of the Holy Bible
Edited by JAY GREEN.
1536 *pp.*, 5¾ *x* 8¾, *illus.* (1962)..$7.95*tkd*
Here is the kind of Bible that teen-agers want to read, as described and recommended by them in an extensive survey made of their organizations and their leaders. Containing exactly the features termed most desirable, this volume is what they want, and what they will read. It employs a basic ninth-grade vocabulary, and is written in proper, understandable English. The more beautiful, poetic passages of the Bible are retained throughout, and although up-to-date in every respect, it is a Bible that meets the needs of churches desiring more than graded lessons to hold teen-age interest.

GREEN—The Children's Old Testament with Stories
Edited by JAY GREEN. Stories by PETER PALMER. Illustrated by MANNING DEV. LEE.
1536 *pp.*, 5¾ *x* 8¾, *illus.* (1962)..$7.95*tkd*
Carefully and reverently created for family reading time, this volume is composed of the easy-to-read-and-understand Old Testament portion of the *Children's Version* combined with the colorful *Children's Bible Story Book.* (The 100 stories and 400 color illustrations are conveniently placed in the back of the book.) As brought together in this single

edition, the glowing stories will give the family years of Scripture and Bible-story reading.

HARTMAN—Encyclopedia Dictionary of the Bible
Translated by LOUIS F. HARTMAN.
1300 *pp.*, 9¼ *x* 6⅜ (1963).....$27.50*td*
Originally published in Dutch, the work of many authorities, under the editorship of the distinguished scholar Dr. Alfred van den Born, the translation has been made from the second (revised) Dutch edition by a well-known American Biblical authority Father Louis F. Hartman of The Catholic University, assisted in small part by other experts. This is a 1300-page book of over one million words well planned, up to date, and already a classic source among theologians and students in Europe. Now in English, it seems certain to assume the number-one position in the field of one-volume Biblical reference.

HUFF—Whom the Lord Loveth
By JANE HUFF.
288 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*t*
Jane Huff tells this deeply inspiring story of her late husband, who, as a successful businessman and community leader, at the age of forty suddenly went into the ministry. Mrs. Huff writes of his difficult decision at a time in life when most men are settled in careers, and of his joyous enthusiasm during the first months of his service. Even when the tragedy of a chronic illness might have interrupted the labors of an average man, Jim Huff realized that his example was a source of inspiration he could not allow to fail. The book is a story of Christian service and triumph, told by the woman who loved Jim Huff and shared his defeats and his triumphs, a story of two people who were devoted to each other, to their fellow man, and to God.

MARSHALL—Beyond Our Selves
By CATHERINE MARSHALL.
266 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*td*
Catherine Marshall's new book is a skillful blend of inspiration and autobiography. *Beyond Our Selves* will answer the needs of hundreds of thousands of people searching for a more meaningful life, a more pertinent faith, and a stronger relationship with God. Her "lessons," which she hopes will guide her many readers to a happier life, are neither dry nor superficial. As always, Mrs. Marshall begins with her own life—the moment when the asking for her own forgiveness was most difficult, her own experiences with healing, her own fight with temptation, her own battle with ego, and the difficult times she had coming to terms with the prayer of relinquishment. There is wisdom here and truth, together with a moving picture of an extraordinary woman living her remarkable life.

MARSHALL—A Man Called Peter
By CATHERINE MARSHALL.
330 *pp.*, 6 *x* 9 (1951).....$5.00*td*
Special Edition (1955).....$2.95*td*
The true story of a great modern minister and a warmly human personality. Dr. Peter Marshall was one of the most vigorous and widely acclaimed Protestant preachers of recent years. Nineteen years after his immigration to this country, he had risen from conduit ditch digger in New Jersey to Chaplain of the United States Senate. In *A Man Called Peter*, Mrs. Marshall tells her husband's story and the story of their life together. It is a record of love, faith, and effort that has few equals in real life or fiction.

MARSHALL—The Prayers of Peter Marshall
Edited and with Prefaces by CATHERINE MARSHALL.
243 *pp.*, 5½ *x* 8 (1954).....$4.50*td*
A collection of the prayers of Peter Marshall containing both pastoral prayers and those delivered in the Senate while Dr. Marshall was Chaplain. The prayers are in Dr. Marshall's characteristic simple, straightforward, down to earth, and deeply moving manner of speaking. The Pastoral Prayers are divided into three categories—prayers for personal needs, for special days, for the nation and the world. Those delivered in the Senate reflect Peter Marshall's profound love and concern for his adopted country.

MARSHALL—To Live Again
By CATHERINE MARSHALL.
300 *pp.*, 6 *x* 9 (1957).....$4.50*td*
The inspiring story of a courageous woman's quest . . . the sequel to *A Man Called Peter*. This is Mrs. Marshall's stirring, intimate account of her life since the death of her husband, the famous minister Dr. Peter Marshall. It is the enthralling story of a woman who, with God's help, created from a personal tragedy a life of outstanding achievement and profound spiritual reward. Written in the same warm anecdotal vein as *A Man Called Peter*, it traces the author's upward spiritual and mental progress from the depths of despair caused by the death of her husband through the various stages of grief and recovery and to the final realization that she was empowered, seemingly from above, to carry on Peter's ministry in such a way that his words and ideas would reach and affect more people after his death than while he was alive. Mrs. Marshall's success in continuing the work of her husband is told in terms of the people she worked with and the dramatic and even miraculous day-to-day events. This is only one facet of her stirring story. The other has to do with the searing loneliness of widowhood and how she dealt with it. And in every wonderful aspect of her new life the reader will feel, along with Catherine Marshall, the touch of the hand of God.

MARSHALL—The First Easter
By PETER MARSHALL. Edited and with an introduction by CATHERINE MARSHALL.
288 *pp.*, 5⅜ *x* 8⅜, *illus.* (1959)....$3.50*td*
Skillfully woven from the many sermons of Peter Marshall, this is a dramatic narrative of the first Easter—from the Last Supper to the Resurrection. Thousands of readers will welcome Dr. Marshall's inspiring account of every important scene and event: the Trial before Pilate, the Seven Words from the Cross, the Burial in the Garden, the Restoration of Simon Peter. The book concludes with a memorable summation of the meaning of Easter. *The First Easter* has all the force and moving simplicity that have endeared Peter Marshall's words to thousands of Americans. It will undoubtedly be the outstanding inspirational book of this Easter season. Illustrated with beautiful line drawings by William Hofmann.

MARSHALL—John Doe, Disciple
Edited by CATHERINE MARSHALL.
224 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.50*td*

All the force and moving simplicity that endeared Peter Marshall to thousands can be found once again in these sermons, carefully gathered into a single volume by Catherine Marshall to recreate the soaring beauty of her husband's thought and expression. Freedom, temptation, achievement, marriage, fidelity, prejudice, and bigotry are among the many topics that are examined here in the light of a great Christian leader's faith, experience, and wisdom.

MARSHALL—Let's Keep Christmas
By PETER MARSHALL. Introduction by CATHERINE MARSHALL. Illustrated by BARBARA COONEY.
32 *pp.*, 5½ *x* 6½ (1953).....$2.00*td*
An unforgettable, moving Christmas sermon by the late Peter Marshall. Peter Marshall was justly famed for his sermons and at a time when Christmas has become overly commercialized *Let's Keep Christmas* will serve as an eloquent reminder of that holiday's true spirit.

McCABE—Service Book for Ministers
By JOSEPH E. McCABE, D.D.
226 *pp.*, 4½ *x* 6⅝ (1961).....$3.95*t*
A book of services, designed to be the best and most useful for Protestant ministers of all major denominations, this work differs from previous manuals in amplification of materials for weddings, funerals, counseling, and ministry to the sick. The book also repeats Biblical passages and prayers suitable for more than one occasion instead of using cross references. These and many other new features were adopted after consultation with ministers of several denominations. The format enables it to be carried in a coat pocket, and the type is large enough for reading in poor light.

NEIL—The Bible Companion
Edited by WILLIAM NEIL.
468 *pp.*, 7½ *x* 10½, *with 20 maps, 158 black and white photographs, and 16 full-color reproductions of great Biblical scenes and paintings* (1960).....$9.95*td*
A complete pictorial and reference guide to the people, places, events, background, and faith of the Bible, this superb book belongs beside every Bible, in every home. Admirably conceived and written by eminent scholars on both sides of the Atlantic, it is not only an encyclopedia that may be read as continuous and fully illustrated narrative, but also as a complete guide to Biblical study. Maintaining an orthodox point of view that will appeal to laymen and clergymen of all denominations, the authors have assembled a work of comprehensive coverage and unprecedented scope in the field of Biblical scholarship.

NILES—Upon the Earth
By DANIEL T. NILES.
288 *pp.*, 5⅝ *x* 8⅜ (1962).....$4.95*tg*
What is the nature of the Church's mission to the world? Where does the justification for it lie? Whose is the responsibility to carry it out? These are among the questions raised and answered in this book by the well-known Asian church leader. In the first five chapters, Dr. Niles deals with the Christian faith in general and raises inescapable questions which must be faced by Christian discipleship in the secular world. In the next three chapters, he discusses various specific and practical issues concerning churches and missions today. Then in two chapters, he writes of the barriers arising between Christianity and other great faiths, and the secular frontiers missionaries must cross for the sake of the Gospel.
Dr. Daniel T. Niles is General Secretary of the East Asia Christian Conference, and author of *That They May Have Life*, and *The Preacher's Task and the Stone of Stumbling*.

PALMER—The Children's Bible Story Book
By PETER PALMER. Illustrated by MANNING DEV. LEE.
224 *pp.*, 5¾ *x* 8¾ (1962).....$3.95*td*
Here are a hundred exciting and inspiring stories about God's people. Peter Palmer again proves that she is one of the most fascinating Bible storytellers in America today. Just as parents delighted in her New Testament stories, they will love these stories of the great men and women in the Old Testament, illustrated by Manning de V. Lee so that children can hear and see the characters step out of the bible and into their young lives.

PEARSON—Hear Our Prayer
Prayers for Public Worship
By ROY PEARSON.
192 *pp.*, 5⅜ *x* 8 (1961).....$3.75*td*
Ministers, chaplains, and all who in the course of a year deliver a great many prayers, will quickly recognize this book as a fruitful source of spiritually felt, thought-provoking, and movingly phrased petitions. There are prayers here in abundance for nearly every purpose: prayers in the vestry, invocations, and pastoral prayers for both general use and specific days in the church and civil calendar; prayers for use at the offering, before and after the sermon, and at the close of worship, and a final section devoted to the sacraments and ordinances.

POLING—Jesus Says to You
His Eternal Wisdom and Its Meaning Today
By DANIEL A. POLING.
96 *pp.*, 5 *x* 7½ (1961).....$2.95*td*
Here are forty devotional essays based on the words of Jesus. Dr. Poling first gives the saying, then describes the occasion on which Jesus was speaking, and finally explains the wisdom behind the words and their meaning today. By telling how Jesus' teachings carry the same vital message now, and are as significant to modern man as they were two thousand years ago, one of the most beloved ministers of our time shows a troubled world where to look for guidance and peace of mind.

PRICE—The Narrow Pass
By GEORGE H. PRICE.
224 *pp.*, 5⅝ *x* 8⅜ (1963).....$5.50*tg*
Almost forgotten seventy-five years after his death, Soren Kierkegaard has now taken his place as one of the most influential philosophers of the past century. Despite the recent, wide dissemination of his writing, Kierkegaard's thought has not been successfully systemized, largely because its nature does not lend itself to the usual philosophical order. Mr. Price takes the position that the key to Kierkegaard lies in his view of man's nature, and from this perspective the author presents an illuminating and perceptive study that offers theologians, pastors, and laymen a cogent approach to Kierkegaard's diverse writings, and points toward his central, and little recognized, positive viewpoint.

SAINT THOMAS AQUINAS—Summa Theologiae
Edited by THOMAS GILBEY, O.P. and P. K. MEAGHER, O.P. both of Cambridge University, and T. C. O. BRIEN, O.P.
Volume I
168 *pp.*, 5½ *x* 8½ (1963).....$5.50*td*
The Summa Theologiae ranks among the greatest documents of the Christian Church. It provides the framework for Catholic studies in systematic theology and for a classical Christian philosophy. The steady endorsement for centuries by the Apostolic See and the approval of Ecumenical Councils were culminated in the Encyclicals of Leo XIII and Pius XI, which gave it such a position of authority, it is now the standard work of its kind in Catholic schools of divinity all over the world. It is a monumental sixty-volume work. Each volume is self-contained and will include the Latin text and a new English translation, introductions, notes, appendices, and glossaries. This work will be sold individually or by the set.
CONTENTS—Volume I—Christian Theology. Volume II—Existence and Nature of God. Volume III—The Making of Many.

SHEEN—Go to Heaven!
By FULTON J. SHEEN.
233 *pp.*, 5⅝ *x* 8⅜ (1960).....$4.50*td*
In this new book, Bishop Sheen describes the many ways to heaven, clearly delineating the "fact of hell." He breathes new life and meaning into the old concepts of faith, hope, charity, tolerance, patience, and freedom of choice. "Why fear death?" he asks. Death is a necessity to keep evil from having immortality. And as for pain and suffering, man's capacity for them is greater than for pleasure, since God intended all pain to be exhausted on this earth. Here is Bishop Sheen at his most penetrating, and most challenging best, at the peak of his spiritual and intellectual powers. *Go to Heaven!* is a book destined to satisfy profoundly and lastingly the Bishop's growing audience across the nation. *Imprimatur.*

SHEEN—Life of Christ
By FULTON J. SHEEN.
522 *pp.*, 6 *x* 9 (1958).....$7.95*td*
Written with compassion and understanding, Bishop Sheen's long-awaited Life of Christ is a profoundly moving reading experience. Bishop Sheen places Christ at the very center of history, and he writes the Life in terms of its broadest connotations and applications—especially to contemporary values. Here is a truly monumental work, the result of a lifetime of thought and many years of dedicated scholarship. It will certainly take its place among the world's foremost lives of Christ.

SHEEN—A Priest Is Not His Own
By BISHOP FULTON J. SHEEN.
288 *pp.*, 5⅝ *x* 8⅜ (1963).....$4.95*td*
Bishop Fulton J. Sheen, in writing on various aspects of the priesthood, has produced a work of deep and permanent value, for priests and for those considering the priesthood as a vocation. He discusses the priest's many obligations and considers his varied roles and the deeper fulfillment of them. As a series of meditations for priests, the book is unsurpassed, for it is a guide to very concrete ways in which each priest can enrich his spiritual life, as well as the lives of those around him.

STOKES—The Epic of Revelation
By MACK B. STOKES.
248 *pp.*, 5⅝ *x* 8⅜ (1961).....$4.95*t*
An excellent book in the field of Biblical theology, this is an admirable introduction to the neglected subject of the purpose of God with reference to mankind. Professor Stokes, for the most part stating the Biblical case, indicates the full scope of his book by the titles of his chapters: Creation, the Moral Order, Man's Freedom and Its Violation in Sin, Redemption through Christ and His Atonement, the Mission of the Holy Spirit, the Meaning of History, Salvation, and Immortality in the Church and the Blessed Society of Heaven. Jesus Christ, both God and Man, is central in this epic. He being at once the point where Old and New Testaments converge, and the complete disclosure of God's purposes.

THOMAS—My Beloved
Life and Experiences of a Carmelite Nun
By MOTHER CATHERINE THOMAS.
253 *pp.*, 5½ *x* 8, *illus.* (1955).....$5.00*td*
The life story of a nun of Carmel, the strictest monastic order of the Catholic Church. Sister Thomas describes how she came to enter the order, how she overcame obstacles to try her vocation, and what life is like behind the walls of Carmel. She explains the philosophy of Carmel, showing the absolute discipline of mind.

YADIN—The Art of Warfare in Biblical Lands
By YIGAEL YADIN.
8⅜ *x* 10¾, *illus.* (1963).....$25.00*t*
This lavishly illustrated two-volume set, based on the most recent archaeological research, is the definitive work on Biblical warfare. Beginning with an account of the oldest known military installation—the fortifications of Jericho, circa 7,000 B.C.—to the fall of Jerusalem in 586 B.C., the author traces the history of weapons, mobility, personal protection, strategy and tactics, fortified cities in attack and defense, and battle in open terrain. Line drawings abound in the margins of Dr. Yadin's 100,000 word text, and there are 140 pages of full color illustrations in each volume—the most magnificent collection of ancient warfare ever assembled.

ZADOR—Hear the Word!
By HEINRICH ZADOR.
320 *pp.*, 5⅝ *x* 8 (1962).....$4.95*tg*
This Biblical novel by an Israeli novelist, already published in Germany, Israel, Spain, and England, is in the tradition of Sholem Asch, rather than the gaudy action epics. Its heroes are Elijah and Elisha, and the drama focuses on their agonies as prophets of the Lord. One of the world's great stories, it covers Israel's life under the kingship of Ahab and Jehoram. Jezebel is here, and the canny Jehu, as human passions conflict with the fulfillment of prophecy. Heinrich Zador emigrated to Israel from Hungary in 1939, and after a brief period in business, began to write. This, his fifth book, has received the widest praise from ministers, readers, and critics wherever it has appeared.

Travel

THE WORLD-IN-COLOR SERIES

(World in Col. Series)

Doré Ogrizek, Editor

France

North Africa

BRIDGE AND LOWNDES—The Selective Traveller in Portugal

By Ann Bridge and Susan Lowndes. Revised Edition.

290 *pp.*, 5⅝ *x* 8⅜, *maps* (1961)....$7.50*tg*

When novelist Ann Bridge arrived in Portugal as wife of the newly appointed British Ambassador, her first telephone call was to Susan Lowndes, an old and valued friend who, married to a Portuguese, had an intimate knowledge of the country, its people, history, art, and architecture. They decided to collaborate in writing a complete new guide, seeking places rarely visited, making notes, taking photographs, and verifying the writings of their predecessors—often with surprising results. Ann Bridge is an ardent botanist as well as archaeologist, and together the two women created one of the most unusual and vividly descriptive guide books ever published, which is now completely revised and brought up to date with this edition. *Photographs, maps. Ann Bridge,* author of *The Numbered Account, Peking Picnic, The Dark Moment, The Light Hearted Quest,* and *The Portuguese Escape,* has a wide and highly enthusiastic public on both sides of the Atlantic.

DELAPLANE—Pacific Pathways

By Stan Delaplane.

In Press

This complete guide to the Pacific area by a Pulitzer Prize-winning journalist covers Hawaii, Australia, Japan, Samoa, Fiji, Hong Kong, and other points Far East and charts a course for the traveler which includes accommodations, restaurants, transportation, sights, tours, and all the assorted excitements of life on the move.

MARTIN AND MARTIN—England!

An Uncommon Guide

By Lawrence Martin and Sylvia Martin.

424 *pp.*, 5½ *x* 8 (1963).....$6.95*td*

Another guidebook to England? Yes, but a book like no other, and the first in a great new series. It is not only breezy, provocative, amusing, and outrageously honest, it is downright helpful. The authors whisk the reader off in all directions, beginning with the six routes from Trafalgar Square that wrap up London today, and London of the past, thoroughly and intimately. After a special chapter on twenty-two ways to circumvent the British Sunday, there are ten excursions through England—up Costwood hills, down Derbyshire lanes, across Yorkshire and Devon moors, and through stately homes and medieval towns. The reader is told exactly what to expect of English food, hotels, travel, gamesmanship, traditions, tipping, shopping, and other crises. Lawrence and Sylvia Martin, a husband-and-wife team, have been traveling the world for twenty-two years, and writing about it with the wit, joy, and welcome authority that make this book a delight. She is author of the novel *I, Madam Tussaud* and, together, the Martins wrote the famed *Standard Guide to Mexico and the Caribbean.*

MARTIN—Paris! An Uncommon Guide

By Lawrence and Sylvia Martin.

288 *pp.*, 5⅝ *x* 8⅜ (1963).....$6.95*td*

Paris! is the second book of the Uncommon Guide Series. Is there anything new to be told the traveler—passport or armchair variety—about the most visited of foreign cities? Yes, if it comes to the reader through the temperament of a couple who gave up their careers twenty-four years ago to travel the world for the fun of it. Here not only the standard sights are freshly dealt with but also such vexing matters as shopping, haute-couture, tipping, traffic, popular quirks, and sex.

MENEN—Speaking the Language like a Native

By Aubrey Menen.

240 *pp.*, 5⅝ *x* 8⅜ (1962).....$5.50*td*

This captivating collection of essays by the famed Anglo-Indian novelist is a brilliant and provocative exploration of the land he has adopted and made his home—Italy. Needless to say, Aubrey Menen's Italy is like none other, and his book is an adventure in new sights, personal discoveries, and spellbinding observations that will carry even the most seasoned traveler on a journey with one of the world's wittiest, most urbane, and civilized authors as a guide. Wandering through the ancient and modern worlds that exist simultaneously and eternally in Italy, Mr. Menen writes of Rome and Pompeii, Florence and Venice, and of the sacred and profane, noble, fraudulent but always bewitching land from Milan to Capri, its contrasts, its enigmas, and its very particular character.

OGRIZEK—France

A Portrait in Color

Edited by Doré Ogrizek, *World in Col. Series.*

240 *pp.*, 10 *x* 10¼ (1959).....$7.95*td*

This handsome, large format book features the fine text and lavish illustrations that have distinguished all the books in Doré Ogrizek's *World in Color Series.* Here, in gay and informative chapters by such guides as André Maurois, Jean Cocteau, Jules Romains, and others who know and love France, the reader is taken on a spellbinding tour of a land in which twenty centuries of history have created one of civilization's most resplendent and majestic masterpieces. More than 250 sparkling watercolors, decorative maps, fine old prints, and line drawings by top French artists accompany the articles. Paris, in a full-length study, and every province, with its own special customs, foods, wines, sights, and diversions, are described.

OGRIZEK—North Africa

Edited by Doré Ogrizek. *The World-in-Col. Series.*

448 *pp.*, 5⅝ *x* 7½, *illus.* (1955)....$7.50*td*

This companion volume to *South and Central Africa* tells the story of this exciting region of a little-known continent and presents chapters

on its unique arts and crafts, its turbulent history, its people and their way of life, its cities and countryside.

OGRIZEK—France

Edited by DORÉ OGRIZEK. *McGraw-Hill Pocket Travel Guide Series.*

343 *pp.*, 3⅞ *x* 6⅝, *illus.* (1954)....$2.95*td*

Divided into fourteen itineraries plus a tour of Paris. It contains all the information the average tourist with a limited time to see France wants at his fingertips. The itineraries include trips through Normandy, Brittany, the Loire and Rhone valleys, Provence, the French Alps, Central, Northern, and Eastern France, and Corsica.

WILHELM—John Wilhelm's Guide to All Mexico

By JOHN WILHELM, Second Edition.

288 *pp.*, 5 *x* 7½, *maps* (1962).....$4.95*td*

In this exciting guide, completely revised and brought up to date with new material, a seasoned traveler and long-time resident of Mexico offers a fascinating personal tour—both for the tourist on a first vacation of the frequent visitor south of the border. In this authoritative book, John Wilhelm takes the reader through all of Mexico, listing the best and most reasonable hotels, restaurants, shops, automobile service stations, airlines, and bus lines. He has included completely new information of resorts, museums, special events, side trips, and currency, plus excellent background material on Mexican history, the people, and their way of life. John Wilhelm, a former president of the Overseas Press Club, is Director of News Bureaus for the McGraw-Hill Publishing Company.

WILHELM—John Wilhelm's Guide to the Caribbean Islands

By JOHN WILHELM.

256 *pp.*, 5 *x* 7½, 14 *maps* (1960)...$4.50*t*

In this completely up-to-date guide—as useful to the tourist on a first trip as to the frequent visitor—John Wilhelm who is both a seasoned traveler and an expert on the area offers a fascinating personal tour of the Caribbean Islands. He writes of the peoples, their history, geography, and culture telling in detail about hotels, reasonable restaurants, places to shop, automobile service stations, airlines, and busses for all travelers in the Virgin Island, Puerto Rico, Jamaica, and Caymans, Haiti and the Dominican Republic, Cuba, the Bahamas and Nassau, the Windward Islands, the Leeward Islands, Curacao, and Trinidad. There is detailed, new information on resorts, museums, sports events, fishing, special side trips, currency of all the major islands, and facts about retiring for life in the Caribbean. The book includes 14 individual maps, plus an overall map of the Caribbean area.

CHECKLIST OF

Webster Books

FROM McGRAW-HILL

Arithmetic

Bartoo, Stinson, Osborn—COUNT FIVE (Kg., lower 1st), $.92s

Bartoo, Stinson, Osborn—STORIES THE NUMBERS TELL (Gr. 1), $.92s

Bartoo, Stinson, Osborn—NUMBER MAGIC (Gr. 2), $.92s

Exploring Arithmetic Master Carbons (Gr. 3), For use with either 1957 or 1962 edition, $2.40s

Exploring Arithmetic Master Carbons (Gr. 4), For use with either 1957 or 1962 edition, $3.52s

Exploring Arithmetic Master Carbons (Gr. 5), For use with either 1957 or 1962 edition, $2.24s

Exploring Arithmetic Master Carbons (Gr. 6), For use with either 1957 or 1962 edition, $3.36s

Exploring Arithmetic Master Carbons (Gr. 7), For use with 1957 edition only, $4.00s

Exploring Arithmetic Master Carbons (Gr. 8), For use with 1957 edition only, $4.96s

Exploring Arithmetic Master Carbons (Gr. 7), For use with 1962 edition only, $4.00s

Exploring Arithmetic Master Carbons (Gr. 8), For use with 1962 edition only, $4.96s

Spitzer and Norman—EXPLORING ARITHMETIC (Grs. 1–2), $1.24s. Accompanying TEACHER'S EDITION, $1.28s

Osborn, Riefling and Spitzer—EXPLORING ARITHMETIC, 1962 edition (Grs. 3–8), $3.32s. Accompanying TEACHER'S EDITION, $3.32s

Osborn, Riefling and Spitzer—EXPLORING ARITHMETIC, 1957 edition (Grs. 3–8), $3.32s. Accompanying TEACHER'S EDITION, $3.32s. Accompanying ANSWER KEY, $.52s

Spitzer, Smith and Kuhn—EXPLORING ARITHMETIC WORKBOOK, 1962 edition (Grs. 3–8), $.80s. Accompanying ANSWERS, $.52s

Spitzer, Smith and Kuhn—EXPLORING ARITHMETIC WORKBOOK, 1957 edition (Grs. 3–8), $.80s. Accompanying ANSWERS, $.48s

Starr, John III—PRACTICE IN ARITHMETIC WEBSTERMASTER CARBONS (First and second semester editions, Grs. 3–8), $5.32s. Accompanying ANSWER KEYS, $.12s

Dictionaries

Merriam-Webster—WEBSTER'S BIOGRAPHICAL DICTIONARY, $7.50s

Merriam-Webster—WEBSTER'S COLLEGIATE DICTIONARY, $6.00s

Merriam-Webster—WEBSTER'S DICTIONARY OF SYNONYMS, $6.00s

Merriam-Webster—WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY, $47.50s

Economics (Curriculum Resources Inc. Economics Series)

World Trade, $.72*

International Economic Problems, $.72*

Our Labor Force, $.72*

Economics of the Community, $.87.* Accompanying TEACHER'S GUIDE, $.68s

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